

BIOMAG

2002

13th International
Conference on Biomagnetism

Jena, Germany

August 10-14, 2002

Program

of the 13th International Conference on Biomagnetism



Program

Thursday, August 8	Pre-conference tour to Dresden								
Friday, August 9	9.00 - 12.00	Pre-conference tours	BESA workshop *): From raw data to source images and source coherence			ANT workshop *Advanced analysis of high density EEG/ERP: Research and clinical application"			
	13.00 - 19.00								
Saturday, August 10	9.00 - 12.00	Laboratory tours in Jena (IPHT)	Registration						
	8.00 - 13.00								
		lecture hall HS1	lecture hall HS2						
	13.00 - 13.30	Opening Session							
	13.30 - 14.30	Plenary Lecture							
	14.30 - 14.45	coffee break							
	14.45 - 16.45	Visual and Auditory Systems	Workshop	Workshop "Noninvasive Measurement of Iron"					
	16.45 - 17.00	coffee break							
	17.00 - 19.00	Ischemia and Exercise MCG	Workshop	Workshop "Developments in Multi-Modality Imaging"					
	19.00 - 21.00	Welcome Reception							
Sunday, August 11	8.00 - 8.50	Tutorial 1 "Noise Reduction in Biomagnetic Recordings"	2 nd Jena Symposium "Fetal Biomagnetism"						
	9.00 - 10.30	Sensory - Motor Systems					fMCG 1		
	10.30 - 10.45	coffee break							
	10.45 - 12.45	Cognition and Language					fMCG 2		
	12.45 - 14.00	lunch break							
	14.00 - 16.00	Cardiac Modeling					fMEG		
	16.00 - 16.15	coffee break							
	16.15 - 18.00	Poster 1					Poster fMCG & fMEG		
18.00 - 19.00									
Monday, August 12	8.00 - 8.50	Tutorial 2 "Phase Synchronization"	Special Session of the IEEE Joint Chapter BME (Germany Section) Part 1: "Advanced Methods in Signal Analysis" Part 2: "ICA in MEG/EEG processing"						
	9.00 - 10.30	Pain					Workshop	Workshop "Transcranial Magnetic Stimulation"	
	10.30 - 10.45	coffee break							
	10.45 - 12.45	Epilepsy							
	12.45 - 14.00	lunch break							
	14.00 - 16.00	Instrumentation					Workshop		
	16.00 - 16.15	coffee break							
	16.15 - 18.00	Poster 2							
18.00 - 19.00	Business Meeting								
Tuesday, August 13	8.00 - 8.50	Tutorial 3 "Inverse Methods"	Workshop "Forward and Inverse Modeling" in cooperation with the Max-Planck Institute of Cognitive Neuroscience						
	9.00 - 10.30	Neurology					Workshop		
	10.30 - 10.45	coffee break							
	10.45 - 12.45	Clinical MCG							
	12.45 - 14.00	lunch break							
	14.00 - 16.00	Cortical Oscillations					Workshop	Workshop "Magnetic Methods for Understanding of Oral Drug Delivery"	
	16.00 - 16.15	coffee break							
	16.15 - 18.00	Poster 3							
20.00 - 01.00	Conference Banquet Party at the "Mensa" Ernst-Abbe-Platz								
Wednesday, August 14			Workshop "Statistical Issues in the EEG/MEG Inverse Problem"						
	9.00 - 10.30	Psychiatry					Workshop		
	10.30 - 10.45	coffee break							
	10.45 - 13.00	New Frontiers in Biomagnetism							
	13.00 - 13.30	Closing Session							
	14.15	Bus departure to Berlin							
17.30 - 21.00	Laboratory tour at PTB Berlin								
Thursday, August 15	8:45 - 17:30	Satellite Symposium "MEG - a Tool for Research on Language and Music Perception." at the Max-Planck Institute of Cognitive Neuroscience in Leipzig							

Conference venue: Carl-Zeiss-Straße 3

*) This workshop is not covered by the conference fee and requires special registration.



Table of contents

Greetings	4
Organizers and invited speakers	6
Scientific Program	9 - 53
Oral sessions	9
Friday	9
Saturday	10
Sunday	13
Monday	16
Tuesday	20
Wednesday	24
Thursday	26
Poster sessions	28
Sunday	29
Monday	37
Tuesday	45
Registration, Name Badge	54
Poster & Slides	55
Climate and Geographic conditions	55
Conference venue	55
Currency & Shopping	55
Medical Care & Pharmacy	56
Bank & Cash dispensers	56
Public transportation service	56
Map of the public transportation system	57
Laboratory tour to Berlin	58
Satellite symposium Leipzig	58
Laboratory tours in Jena	59
Accompanying persons program	59
Coffee & Lunch	59
Social events	60
E-mail & Internet	60
Message board	60
Floor plan	61
Main collaborators & Sponsors	62 - 63
City map of Jena	64

Contact address

University Hospital Jena, Dept. for Neurology, Biomagnetic Center, Dr. Jens Hauelsen,
 Philosophenweg 3, D-07743 Jena, Germany, Tel: +49-3641-935353, Fax: +49-3641-
 935355, e-mail: biomag2002@uni-jena.de, Web: <http://biomag2002.uni-jena.de>



Greetings from the Rector of the Friedrich-Schiller University Jena

The Friedrich-Schiller University Jena has the pleasure to welcome the participants of the 13th International Conference on Biomagnetism which takes place in Jena, Germany, from Saturday, August 10, to Wednesday, August 14, 2002.

Biomagnetism is an interdisciplinary field of research with scientists working in biological, physiological, medical, physical, technical, and other associated disciplines. Biomagnetic research ranges from basic research to clinical and neuroscience applications. The common denominator of all of these research activities is the analysis of the magnetic field produced by the human body. Because of the totally non-invasive character of the biomagnetic techniques, it is reasonable to believe that the prospective socio-economic impact of this new medical technology is extremely high. The BIOMAG 2002 will substantially contribute to the exchange of new ideas and new views in this field.

Neuroscience has an outstanding background in Jena. Almost 80 years ago Hans Berger discovered the human EEG in Jena. Starting in 1977, a long tradition of biomagnetic research at the Friedrich-Schiller University Jena has provided the roots for the Biomagnetic Center founded in 1994 and its extension planned for 2003. The Biomagnetic Center is an interdisciplinary research center for basic and clinical research. At the present time 16 different groups from the Departments of Neurology, Psychiatry, Neuropediatrics, Pediatrics, Psychology, Physiology, Pathophysiology, Cardiology, Gynecology, ENT, Physics and Biomedical Engineering perform investigations within 31 research projects. The common interest of the variety of different groups is to apply the advantages of bioelectromagnetic measurements to their specific field of clinical or basic research, i.e. to use this noninvasive method for source localization and signal analysis. The Biomagnetic Center has made outstanding contributions to the field of Biomagnetism over the last 8 years.

We wish you a successful conference and a pleasant stay in Jena.

Jena, June 22, 2002

Prof. Dr. Karl-Ulrich Meyn

Rector of the Friedrich-Schiller University Jena



Welcome to Jena

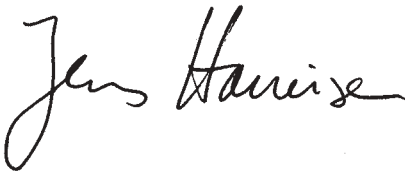
On behalf of the organizers of the 13th International Conference on Biomagnetism it is my great honor and pleasure to welcome you to Jena.

The International Conferences on Biomagnetism have enjoyed an ever increasing number of participants over the last decades. I'm glad that this number increased again. For the 13th International Conference on Biomagnetism, more than 500 participants registered at the time of writing these words of welcome. I am convinced that the BIOMAG 2002 will substantially contribute to the exchange of new ideas and new views in this field.

A large number of people contributed to the success of this conference. I would like to thank all these people, and I'm most grateful to all our sponsors (see sponsors pages in this booklet), especially the main collaborators and the Deutsche Forschungsgemeinschaft (DFG). Special thanks go to Hannes Nowak, Frank Gießler, and Ralph Huonker for their outstanding work.

Jena is a historical city with a University founded in 1558, a brewery tradition since 1328, and a wine making tradition that has lasted more than 1000 years. At the same time, Jena is a very young and lively city with 20,000 students and many young technology oriented startup companies. Please enjoy your stay in this very stimulating surrounding for the BIOMAG 2002 conference.

Jena, June 24, 2002



Jens Haueisen



Organizers



Dr. Hannes Nowak
 Conference Co-Chair

Dr. Jens Hauelsen
 Conference Chair



Organizing Committee

Head:
 Dr. Hannes Nowak

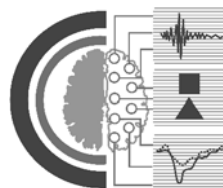
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 Dr. Hartmut Brauer,
 Dr. Michael Eiselt,
 Dr. Edeltraut Emmerich,
 Prof. Sergio Ern ,
 Dr. Roland Fischer,
 Lars Flemming,
 Dr. Frank Gie ler,
 Dr. Ralph Huonker,
 Dr. Thomas R. Kn sche,
 Dr. Uwe Leder,
 Dr. Burkhardt Maess,
 Prof. Ceon Ramon,
 Dr. Timm Rosburg,
 Dr. Frank Sachse,
 Dr. Ekkehard Schleu ner,
 Uwe Schulze,
 Dr. Lutz Trahms,
 Prof. J rgen Vieth,
 Dr. Marek Ziolkowski

Scientific Program Committee

Head
 Dr. Hannes Nowak

Members
 Prof. John W. Belliveau,
 Dr. Gabriel Curio,
 Prof. Ryusuke Kakigi,
 Dr. Jukka Nenonen,
 Prof. Yoshio Okada,
 Prof. Yoshinoro Uchikawa

Our co-organizer is



Max-Planck-Institute
 of Cognitive Neuroscience
www.cns.mpg.de

International Advisory Board

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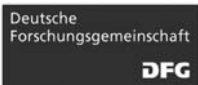
The Conference is under the patronage of the Thüringer Ministerin für
 Wissenschaft, Forschung und Kunst, Prof. Dr. habil. Dagmar Schipanski.

Invited speakers

Henning Blume,	Germany
Patrick Celka,	Switzerland
Rabih Chaoui,	Germany
Jan C De Munck,	The Netherlands
Andreas K Engel,	Germany
David E Farrell,	USA
Angela D Friederici,	Germany
Line Garnero,	France
Ji-Sheng Han,	China
Riitta Hari,	Finland
Helena A Hänninen,	Finland
Craig Henriquez,	USA
Vinzenz Hombach,	Germany
Hiroaki Ikeda,	Japan
Stefan J Kiebel,	United Kingdom
Stefan Koelsch,	USA
Seppo Kähkönen,	Finland
John C Mosher,	USA
Nobukazu Nakasato,	Japan
Arye Nehorai,	USA

Christo Pantev,	Canada
Andrew C Papanicolaou,	USA
Walter Paulus,	Germany
Eero Pekkonen,	Finland
Antonio Piga,	Italy
Heinz F R Prechtel,	Austria
Stephan E Salenius,	Finland
Alfons Schnitzler,	Germany
Paul Seidel,	Germany
Kensuke Sekihara,	Japan
Hermann Stefan,	Germany
Tim St. Pierre,	Australia
Janette F Strasburger,	USA
Harvey A Swadlow,	USA
Mari Tervaniemi,	Finland
David S Tuch,	USA
Arno Villringer,	Germany
Benjamin Weiss	USA
Matthias Weisbrod,	Germany
Clive Wilson,	United Kingdom

Acknowledgement



We would like to thank the Deutsche Forschungs-
 gemeinschaft for financial support.



Scientific Program

Oral Sessions

An overhead projector, a slide projector for 35-mm slides, and a data projector will be available in all lecture rooms. Speakers wishing to use slides should bring them to the slidereception desk at least ½ hour before the start of the session. Speakers using the data projector should preview their presentation at the slide reception desk, preferably a day before the presentation. The slide reception desk is in lecture hall HS 5 (next to the registration). “HS 1” and “HS 2” indicate lecture halls HS1 and HS2, respectively.

Friday, August 9, 2002

13.00 - 19.00 ANT workshop

Advanced analysis of high density EEG/ERP: Research and clinical application

Chairs: Zanow F, Knösche TR

13.00 - 18.00 BESA workshop

From raw data to source images and source coherence

Chair: Scherg M

(This workshop is not covered by the conference fee and requires special registration.)

Saturday, August 10, 2002

8.30 - 12.30 ANT workshop

Advanced analysis of high density EEG/ERP: Research and clinical application

Chairs: Zanow F, Knösche TR

8.30 - 12.00 BESA workshop

From raw data to source images and source coherence

Chair: Scherg M

(This workshop is not covered by the conference fee and requires special registration.)

9.00 - 11.00 Lab tour to IPHT

Bus departure 9.00 in front of Hotel Esplanade

Saturday, August 10, 2002

13.00 - 13.30 Opening Session
HS 1

13.30 - 14.30 Plenary Lecture:
Role of neural synchrony for cognitive processes
HS 1, Engel AK

ORAL SESSIONS

14.45 - 16.45 Visual and Auditory Systems
HS 1, Chairs: Kakigi R, Nakamura A

14.45 - 15.15 **Synchronisation and Gamma-band Activity in the auditory system**
Pantev C

15.15 - 15.30 **M100 Latency Tracks Perception Through a Continuum of Vowels**
Roberts TPL, Gage N

15.30 - 15.45 **The Influence of Diazepam in Auditory Evoked Magnetic Fields**
Suzuka Y, Higuchi M, Kado H, Tomoda K

15.45 - 16.15 **Feedforward/Feedback Components of MEG Cortical Response Profiles Localized from Visual and Auditory Attention-related Tasks**
Aine CJ, Stephen J

16.15 - 16.30 **Magnetoencephalographic correlates of face familiarity in human occipitotemporal cortex**
Lueschow A, Endl W, Sander TH, Deffke I, Hinze S, Trahms L, Curio G

16.30 - 16.45 **Estimating the Number of Sources in a VEF/MRI Study**
Böcker KBE, Waldorp LJ, Grasman RPPP, de Munck JC, Kenemans JL, Huizenga HM

14.45 - 16.45 Workshop “Noninvasive measurement of iron”
HS 2, Chairs: Fischer R, Farrell DE

14.45 - 15.05 **Clinical need for measurements of tissue iron**
Piga A, Donato G, Monasterolo S, Lupo G, Longo F

15.05 - 15.30 **Clinical Magnetic Susceptibility Instrumentation: History and Outlook**
Farrell DE

15.30 - 15.45 **Non-invasive measurement and imaging of hepatic iron concentrations using nuclear magnetic resonance**
St. Pierre TG, Clark PR, Chua-Anusorn W, Jeffrey G, Olynyk J, Pootrakul P

15.45 - 16.45 **Panel discussion**

17.00 - 19.00 Ischemia and exercise MCG

HS 1, Chairs: Mäkijärvi M, Fenici R

- 17.00 - 17.30 **Detection of myocardial ischemia with MCG: State of the Art in 2002**
Hänninen H
- 17.30 - 17.45 **Comparison Of Magnetocardiograms Acquired In Unshielded Clinical Environment At Rest, During And After Exercise And In Conjunction With Myocardial Perfusion Imaging**
Brazdeikis A, Taylor AA, Mahmarian JJ, Xue Y, Chu CW
- 17.45 - 18.00 **The Normal Magnetocardiogram at Rest and Post-exercise in Healthy Volunteers in an Unshielded Clinical Environment**
Chen J, Thomson PD, Nolan V, Clarke J, Bakharev AA
- 18.00 - 18.15 **Computerized classification of patients with coronary artery disease but normal or unspecifically changed ECG and healthy volunteers**
Chaikovsky I, Primin M, Nedayvoda I, Vassilyev V, Sosnitsky V, Steinberg F
- 18.15 - 18.30 **Study of ventricular repolarization in patients with myocardial ischemia, using unshielded multichannel magnetocardiography**
Fenici R, Brisinda D, Nenonen J, Mäkijärvi M, Fenici P
- 18.30 - 18.45 **Magnetocardiography to assess myocardial viability in patients with coronary heart disease**
Morguet AJ, Koch H, Behrens S, Kosch O, Goedde P, Lange C, Selbig D, Munz DL, Schultheiss H-P
- 18.45 - 19.00 **Magnetocardiographic changes in the course of coronary intervention**
Hailer B, van Leeuwen P, Klein A, Auth-Eisernitz S, Chaikovsky I, Lange S, Schäfer H, Grönemeyer D, Steinberg F

17.00 - 19.00 Workshop “Developments in Multi-Modality Imaging”

HS 2, Chairs: Belliveau JW, Wood CC

- 17.00 - 17.30 **NIRS and MEG**
Villringer A
- 17.30 - 17.45 **Simultaneous DC-MEG and Near-Infrared Spectroscopy (NIRS) allows for non invasive single-trial analysis of neurovascular coupling in human cerebral cortex**
Mackert BM, Wübbeler G, Leistner S, Burghoff M, Uludag K, Obrig H, Kohl M, Villringer A, Trahms L, Curio G
- 17.45 - 18.00 **Optical measurement of hemodynamic changes in the contralateral motor cortex induced by transcranial magnetic stimulation**
Nissilä I, Kotilahti K, Komssi S, Kähkönen S, Noponen T, Ilmoniemi RJ, Katila T
- 18.00 - 18.15 **MEG-fMRI: Combined Imaging via the Hemodynamic Response**
Moran JE, Tepley N
- 18.15 - 18.30 **A Unified Analysis of fMRI and MEG Data**
Schmidt DM, Ranken DM, George JS, Wood CC
- 18.30 - 18.45 **Some Title, not specified yet**
Belliveau JW

18.45 - 19.00 **Panel discussion**

19.00 - 21.00 **Welcome Reception**
at the conference venue

Sunday, August 11, 2002

8.00 - 8.50 Tutorial 1

Noise compensation techniques

HS 1, Burghoff M

9.00 - 10.30 Sensory-Motor Systems

HS 1, Chairs: Deecke L, Romani GL

9.00 - 9.30 Neuromagnetic Studies of the Human Mirror-Neuron System

Hari R

9.30 - 9.45 Activation of human cerebellum by median nerve stimulation

Sekihara K, Kimura T, Hashimoto I

9.45 - 10.00 Morphology of somatosensory evoked fields: a parameter evaluating anatomofunctional neural connectivity

Tecchio F, Zappasodi F, Pizzella V, Pasqualetti P, Rossini PM

10.00 - 10.15 Integration of somatomotor input in S2 and surrounding fields

Disbrow EA, Hinkley L, Koyama S, Roberts TPL

10.15 - 10.30 Automatic Mapping of Somatosensory Representation by Steady-State Evoked Magnetic Fields

Preißl H, Wiech K, Weiskopf N, Braun C

9.00 - 10.30 fMCG 1

HS 2, Chairs: Peters MJ, Wakai RT

9.00 - 9.30 Development of fetal heart and prenatal diagnosis

Chaoui R

9.30 - 9.45 The influence of biomagnetometer area-of-coverage in the determination of fetal cardiac time intervals

van Leeuwen P, Klein A, Geue D, Lange S, Grönemeyer D

9.45 - 10.00 The fetal magnetocardiogram explained by a magnetic dipole

Stinstra JG, Peters MJ

10.00 - 10.15 Analysis of Heart Rate Variability in Fetuses and Pre-term Neonates

Rassi D, Zhuravlev YE, Mishin A, Matthes J, Emery SJ

10.15 - 10.30 Relation between fetal weight and QRS duration

Kähler C, Hopf A, Schleußner E, Grimm B, Schneider U, Haueisen J, Seewald HJ

10.45 - 12.45 Cognition and Language

HS 1, Chairs: Hoke M, Kuriki S

10.45 - 11.30 Language, Prosody, and Music

Friederici AD

11.30 - 11.45 Visual Evoked Magnetic Fields Associated with Physical and Semantic Discrimination

Huang SF

11.45 - 12.00 Broad-band Changes in Neuromagnetic Power Reflect Spontaneous Perceptual Switching During Binocular Rivalry

Holroyd T, Murata T, Tanabe HC, Hayashi S, Miyauchi S, Yanagida T

12.00 - 12.15 Spatiotemporal patterns of event-related low-frequency brain oscillations in recognition memory

Meeren HKM, Lopes da Silva FH, de Munck JC, van Dijk BW, Stam CJ

12.15 - 12.30 Generators of the N200m to Tones indicating Rare Events: Comparison with Dishabituation

Halgren E, Marinkovic K, Dale AM

12.30 - 12.45 From auditory event related oscillations to neuropsychological performance: predictability

Karakas S, Kafadar H, Bekçi B, Erzenin ÖÜ

10.45 - 12.45 fMCG 2

HS 2, Chairs: van Leeuwen P, Kähler C

10.45 - 11.15 Tachyarrhythmia - Diagnosis and Therapy

Strasburger JF, Wakai RT

11.15 - 11.30 Prenatal diagnoses of fetal arrhythmia using averaged magnetocardiogram and current-arrow maps

Hosono T, Kandori A, Chiba Y, Tsukada K

11.30 - 11.45 Assessment of Fetal Heart Rhythm and Rate in Complete Congenital Heart Block by Fetal Magnetocardiography

Zhao H, Wakai RT, Strasburger J, Gotteiner N, Cuneo B

11.45 - 12.00 Influence of gestational age, fetal heart frequency and estimated fetal weight on cardiac time intervals in normotrophic and growth retarded fetuses

Grimm B, Kähler C, Schleußner E, Schneider U, Schneider A, Haueisen J, Seewald HJ

12.00 - 12.15 Fetal heart rate patterns in normal and ritodrine-treated pregnancies, detected by magnetocardiography

Kotini A, Anninos P, Koutlaki N, Adamopoulos A, Liberis V, Anastasiadis P

12.15 - 12.30 Measurement of fetal tachycardia using a fetal magnetocardiogram

Kandori A, Hosono T, Kanagawa T, Miyashita S, Shinto M, Chiba Y, Murakami M, Miyashita T, Tsukada K

12.30 - 12.45 Panel discussion

14.00 - 16.00

Cardiac Modeling

HS 1, Chairs: Sachse F, Ramon C

14.00 - 14.45

Realistic Bidomain Modeling of the Heart

Henriquez C

14.45 - 15.00

Influence of cardiac electrical anisotropy on activation time imaging

Modre R, Tilg B, Fischer G, Hanser F, Messnarz B

15.00 - 15.15

Localization of dual accessory pathways using two equivalent dipoles

Jazbinsek V, Hren R, Stroink G, Horacek BM, Trontelj Z

15.15 - 15.30

Studying of the heart conductivity anisotropy by the MCG

Budnyk M, Sosnitsky V, Dmytriyeve T

15.30 - 15.45

Modeling of Cardiac Excitation Propagation Taking Deformation Into Account

Sachse FB, Seemann G, Riedel C

15.45 - 16.00

Error Analysis of Registering Anatomical and Functional Cardiac Data Using External Markers

Mäkelä TJ, Lötjönen J, Sipilä O, Lauerma K, Nenonen J, Katila T, Magnin IE

14.00 - 16.00

fMEG

HS 2, Chairs: Lowery C, Schleußner E

14.00 - 14.30

Neuronal development of the human fetus

Prechtl HFR

14.30 - 14.45

Influence of the state of activity and the presented hemisphere on detection and latencies of Auditory Evoked cortical Fields (AEF) in fetal Magnetoencephalography (fMEG)

Schneider U, Schleußner E, Kähler C, Haueisen J, Seewald HJ

14.45 - 15.00

Magnetic brain responses to speech sounds in fetuses and newborns

Kujala A, Huotilainen M, Hotakainen M, Lennes M, Fellman V, Näätänen R

15.00 - 15.15

First report on the magnetoencephalographic recordings of visual evoked brain activity from the human fetus

Eswaran H, Wilson JD, Preißl H, Robinson SE, Vrba J, Murphy P, Rose D, Lowery CL

15.15 - 15.30

Extraction of Spontaneous Fetal MEG via Spatial Filtering

Chen ML, Wakai RT

15.30 - 15.45

Coregistration of anatomical and physiological recordings for fMEG investigations in the SARA system

Preißl H, Robinson SE, Vrba J, Eswaran H, Wilson JD, Murphy P, Lowery CL

15.45 - 16.00

Panel discussion

16.15 - 18.00

Poster 1

Monday, August 12, 2002

8.00 - 8.50

Tutorial 2

Phase synchronization

HS 1, Schack B

9.00 - 10.30

Pain

HS 1, Chairs: Schaible HG, Pizzella V

9.00 - 9.45

Pain modulation by transcutaneous electric acupoint stimulation: An EEG and evoked potential study

Zhang WT, Qi YW, Wang Y, Luo F, Han JS

9.45 - 10.15

Simultaneous activation of primary and secondary somatosensory cortices following CO₂ laser stimulation of C-fibers in humans

Tran TD, Inui K, Hoshiyama M, Lam K, Qiu Y, Kakigi R

10.15 - 10.30

Human somatosensory response to non-painful and painful electrical median nerve stimulation

Torquati K, Pizzella V, Della Penna S, Franciotti R, Babiloni C, Rossini PM, Romani GL

9.00 - 10.30

Special Session of the IEEE Joint Chapter BME (Germany Section)

Part 1: Advanced Methods in Signal Analysis

HS 2, Chairs: Voss A, Witte H

9.00 - 9.15

Improved Multiplication-free Adaptive Digital Filter for ANC of Biomedical Signals

Min SG, Huh Y, Lee HG, Yoon DH

9.15 - 9.30

Trends in Event-Related Fields analysed by the Hilbert transform

Link A, Elster C, Sander TH, Lueschow A, Curio G, Trahms L

9.30 - 9.45

Detection of Phase Synchronization in the Brain, Using Coherence Preserving Surrogates

Dolan K, Dammers J, Fieseler T, Tass PA

9.45 - 10.00

Mapping brain activation by means of focal gamma activity

Wienbruch C, Pihama N, Elbert T, Rockstroh B

10.00 - 10.15

Estimation of baroreflex mediated interactions in chronic hypertensive pregnancy using joint symbolic dynamics

Baumert M, Baier V, Walther T, Stephan H, Faber R, Voss A

10.15 - 10.30

Magnetocardiographic Signal Analysis

Demelis M, Müller, Pasquarelli A, Ern  SN

- 10.45 - 12.45 Epilepsy**
HS 1, Chairs: Weiller C, Brandl UW
- 10.45 - 11.15 **MEG and Epilepsy**
Stefan H
- 11.15 - 11.45 **Clinical Significance of MEG Confirmed by Pre- and Post-Operative Spike Localization and Seizure Outcome**
Nakasato N
- 11.45 - 12.00 **MEG-Guided Identification of Structural Brain Lesions in Patients with Neocortical Epilepsy**
Funke M, Lewine J, Chong B, Moore K, Tsuruda J, Orrison W, Matsuo F, Constantino T
- 12.00 - 12.15 **Epileptic Source Localization from MEG data: Local maxima of 2DII current density solutions compared to ECD locations of spike events**
Aquino P, Moran JE, Nagesh V, Mason KM, Bowyer SM, Tepley N, Barkley GL
- 12.15 - 12.30 **Clustering of interictal epileptiform MEG spikes**
van 't Ent D, de Munck JC, Manshanden I, Verbunt JPA, Lopes da Silva FH, Velis DN, Ossenblok P
- 12.30 - 12.45 **Finding Epileptic Loci by Nonlinear Parameterization of Source Waveforms**
Robinson SE, Vrba J, Otsubo H, Ishii R
- 10.45 - 12.45 Special Session of the IEEE Joint Chapter BME
Part 2: Independent Component Analysis (ICA) in
MEG/EEG signal processing**
HS 2, Chairs: Witte H, Voss A
- 10.45 - 11.15 **Possibilities and limitations of ICA in EEG signal analysis**
Celka P
- 11.15 - 11.30 **Unsupervised identification of spontaneous magnetoencephalographic alpha activity by Independent Component Analysis**
Sander TH, Burghoff M, Lueschow A, Curio G, Trahms L
- 11.30 - 11.45 **Nonlinear time series analysis of human alpha rhythm**
Nolte G, Sander TH, Lueschow A, Pearlmuter B
- 11.45 - 12.00 **Language-related brain activity revealed by multi-taper and independent component analysis**
Salustri C, Kronberg E
- 12.00 - 12.15 **Studying interictal epileptic activity propagation with ICA and MFT**
Bamidis PD, Zisis A, Maglaveras N, Kostopoulos G, Ioannides AA
- 12.15 - 12.30 **Statistical Independence of Different Brain Sources in Evoked MEG Signals**
Huang M, Weisend M, Paulson K, Thoma R, Hanlon F, Moses S, Lee RR
- 12.30 - 12.45 **Identifying cortical sources of corticomuscle coherence during bimanual muscle contraction by ICA**
Vigário R, Jensen O, Hari R

14.00 - 16.00

Instrumentation

HS 1, Chairs: Cohen D, Maniewski R

14.00 - 14.15

Design and Performance of the LANL 158-channel Magnetoencephalography System

Matlashov AN, Kraus RH, Espy MA, Best ED, Briles MC, Raby EY, Flynn ER

14.15 - 14.30

Integrated SQUID-Gradiometer System for Magneto-Cardiography without Magnetic Shielding

Zakosarenko V, Stolz R, Bondarenko N, Schulz M, Meyer HG

14.30 - 14.45

Performance of a room temperature optical cardio-magnetometer

Bison G, Schwarzer S, Wynands R, Weis A

14.45 - 15.00

A high-Tc SQUID based system for neurophysiology studies in-vitro

Magnelind PE, Tzalenchuk AY, Ivanov ZG, Tarte EJ

15.00 - 15.15

A 275 channel Whole-cortex MEG System

Fife AA, Vrba J, Haid G, Hoang T, Kubik PR, Lee S, Loewen R, McKay J, McKenzie D, Robinson SE, Spear P, Tillotson M, Coppola R

15.15 - 15.30

SQUID Based Sensor with Additional Compensation Module for Operation in an Applied Magnetic Field

Della Penna S, Cianflone F, Del Gratta C, Ern  SN, Granata C, Pentiricci A, Pizzella V, Russo M, Romani GL

15.30 - 15.45

Real-time Noise Reduction: 4D Neuroimaging 2500WH System

Moran JE, Tepley N

15.45 - 16.00

New Six-Layer Magnetically-Shielded Room for MEG

Cohen D, Schl pfer U, Ahlfors S, H m l inen MS, Halgren E

14.00 - 16.00

Workshop "Transcranial Magnetic Stimulation"

HS 2, Chairs: Ilmoniemi R, Ueno S

14.00 - 14.15

Introduction and overview of TMS

Ilmoniemi R

14.15 - 14.55

Induction of excitability after-effects by repetitive transcranial magnetic stimulation compared to transcranial direct current stimulation

Paulus W

14.55 - 15.10

Effects of transcranial magnetic stimulation on spontaneous and evoked EEG activities

Iramina K, Maeno T, Ueno S

15.10 - 15.25

Reactivity of the prefrontal cortex as a function of TMS stimulus intensity. An EEG study

K h k nen S, Komssi S, Wilenius J, Ilmoniemi RJ

15.25 - 15.40

Low-frequency rTMS of the Cerebellum Suppresses the Motor Cortex Excitability

Satow T, Mima T, Oga T, Hara H, Chen WH, Hashimoto N, Siebner HR, Shibasaki H

15.40 - 15.55	Effects of topiramate on human motor cortex excitability as measured by transcranial magnetic stimulation Reis J, Tergau F, Hamer HM, Müller HH, Knake S, Fritsch B, Oertel WH, Rosenow F
15.55 - 16.00	Concluding remarks Ilmoniemi R
16.15 - 18.00	Poster 2
18.00 - 19.00	General assembly of the Biomag community HS 1
19.15 - 21.00	Unternehmensgründung und Eigenkapital HS 2, Gründertreffen DEWB, lecture hall 2 (in German)
19.30 - 21.00	Baroque Concert (admission fee 12,- Euro)

Tuesday, August 13, 2002

8.00 - 8.50 Tutorial 3

Inverse methods
HS 1, Maess B

9.00 - 10.30 Neurology
HS 1, Chairs: Freund HJ, Weinberg H

9.00 - 9.30 **Oscillatory coupling in the human motor system**
Schnitzler A

9.30 - 10.00 **Modulation of cortex-muscle oscillatory interaction - functional implications**
Salenius S

10.00 - 10.15 **Presurgical determination of language dominance with Magnetic Source Imaging: Agreement with the Wada procedure**
Sarkari S, Simos P, Castillo EM, Breier J, Papanicolaou A

10.15 - 10.30 **Topographic Distribution of Sleep Spindles Using 2DII**
Drake CL, Moran JE, Mason KM, Bowyer SM, Roth T, Barkley GL, Tepley N

9.00 - 10.30 Workshop “Forward and Inverse Modeling”
Part 1: Forward modeling
HS 2, Chairs: Knösche TR, Maess B

9.00 - 9.30 **Mapping cortical connectivity with diffusion MRI**
Tuch DS

9.30 - 9.45 **Fast anisotropic high resolution finite element head modeling in EEG/MEG source localization**
Wolters C, Anwander A, Kuhn M, Reitzinger S

9.45 - 10.00 **A unified theoretical account of the evoked magnetic fields and extra- and intracellular potentials of the hippocampus**
Murakami S, Zhang T, Hirose A, Okada YC

10.00 - 10.15 **MEG forward problem solution avoiding the electric potential**
von Ellenrieder N, Muravchik C, Nehorai A

10.15 - 10.30 **Panel discussion**

10.45 - 12.45	Clinical MCG HS 1, Chairs: Ern� SN, Hailer B
10.45 - 11.15	Clinical MCG Hombach V
11.15 - 11.45	General solution for the application of magnetocardiography Malmivuo J, Nousiainen J, Oja SJ, Uusitalo A
11.45 - 12.00	ST-T-Variability Detected by Multichannel Magnetocardiography Schless BG, M�ller HP, Pasquarelli A, Demelis M, Hombach V, Ern� SN
12.00 - 12.15	Hypertension: comparison between magnetocardiographic and ultra-sonographic findings Comani S, Gallina S, Orlandi M, Morana G, Di Luzio S, De Caterina R, Romani GL
12.15 - 12.30	Noninvasive Stratification of Micro-Reentrant Arrhythmia by Using Magnetocardiograms Yamada S, Tsukada K, Miyashita T, Wan K, Yamaguchi I
12.30 - 12.45	QT interval distribution in coronary artery disease determined in a large array biomagnetometer Klein A, van Leeuwen P, Hailer B, Lange S, Lukat M, Geue D, Gr�nemeyer D
10.45 - 12.45	Workshop “Forward and Inverse Modeling” Part 2: Inverse modeling HS 2, Chairs: Maess B, Kn�sche TR
10.45 - 11.15	Comparisons of Models in Experimental Somatosensory Data Mosher JC, Baillet S, Leahy RM
11.15 - 11.30	From Dipoles to Multipoles: Parametric Solutions to the Inverse Problem in MEG Jerbi K, Mosher JC, Nolte G, Baillet S, Garnero L, Leahy RM
11.30 - 11.45	On the Detection of Hippocampus Activity with MEG Chupin M, Baillet S, Okada YC, Hasboun D, Garnero L
11.45 - 12.00	Automated reverse iterative source estimation (ARISE): a new method to obtain convergence from distributed to discrete spatio temporal source models Bornfleth H, Weckesser D, Ille N, Mueller M, Berg P, Scherg M
12.00 - 12.15	MEG Source Localization via Partially Adaptive LCMV Van Veen BD, Rodr�guez-Rivera A, Wakai RT
12.15 - 12.30	An inverse algorithm to detect neural activity at up to four locations using MEG Li QX, Gandhi OP
12.30 - 12.45	Panel discussion

14.00 - 16.14	Cortical Oscillations HS 1, Chairs: Hashimoto I, Curio G
14.00 - 14.25	Fast-spike interneurons and feed-forward inhibition in awake sensory neocortex Swadlow HA
14.25 - 14.50	Origins of the high-frequency oscillations in the somatosensory cortex Ikeda H, Wang Y, Okada YC
14.50 - 15.04	Movement interference attenuates somatosensory high-frequency oscillations Tanosaki M, Hoshi Y, Hashimoto I
15.04 - 15.18	Spike bursts of single units in primary somatosensory cortex of awake non human primates contribute to macroscopic 600 Hz burst responses Baker SN, Lemon RN, Curio G
15.18 - 15.32	Tomographic phase resetting analysis (TPRA): 3D-localization of stimulus-locked transient phase responses, synchronization and desynchronization using magnetoencephalography Tass PA, Morosan P, Fieseler T, Dammers J, Boers F, Muren A, Fink GR, Niedeggen M, Zilles K
15.32 - 15.46	Phase Shifts in Thalamo-Cortical Oscillations in Response to 40-Hz Tones Pearson-Bish J, Martin T, Houck J, Ilmoniemi RJ, Tesche CD
15.46 - 16.00	On the physiological basis of the 15-30 Hz motor-cortex rhythm Jensen O, Pohja M, Goel P, Ermentrout B, Kopell N, Hari R
16.00 - 16.14	Pathological oscillatory activity in patients with ischemic brain lesions Butz M, Gross J, Timmermann L, Moll M, Salmelin R, Freund HJ, Witte OW, Schnitzler A
14.00 - 16.00	Workshop “Magnetic Methods for Understanding of Oral Drug delivery” HS 2, Chairs: Weitschies W, Görnert P
14.00 - 14.30	The impact of drug formulation on drug action Blume H
14.30 - 15.00	Imaging techniques for understanding the behaviour of dosage forms in the GI tract Wilson C
15.00 - 15.15	The application of biomagnetic instrumentation and methods for monitoring the gastrointestinal behaviour of drug dosage forms Kosch O
15.15 - 15.30	Detection of the Gastrocolic Reflex Using a Three Axis Fluxgate Ferreira A, Carneiro AAO, Moraes ER, Baffa O, Oliveira RO
15.30 - 16.00	Magnetic marker monitoring Weitschies W

16.15 - 18.00 Poster 3

20.00 - 01.00 Conference Banquet Party at the Mensa

Wednesday, August 14, 2002

9.00 - 10.30

Psychiatry

HS 1, Chairs: Rosburg T, Sauer H

9.00 - 9.25

Preattentive auditory processing in aging and in Alzheimer's disease

Pekkonen E

9.25 - 9.45

Attention and brain monoamine function

Kähkönen S

9.45 - 10.10

Normal and dysrhythmic thalamo-cortical networks in the auditory, somatosensory and visual modality and their relation to Neuro Psychiatric Syndromes

Ribary U, Llinás R, Jeanmonod D, Kronberg E, Sauvé K, Ramirez PR, Schulman JJ, Horenstein C, van Marle HJF

10.10 - 10.30

Sensory gating in schizophrenic patients

Weisbrod M, Roehrig M, Schroeder J, Scherg M, Rupp A

9.00 - 12.15

Workshop "Statistical issues in the EEG/MEG inverse problem"

HS 2, Chairs: de Munck JC, Bijma F

9.00 - 9.05

Introduction

de Munck JC

9.05 - 9.35

Performance Comparison of MUSIC and Maximum Likelihood Estimation

Nehorai A

9.35 - 10.05

Advantages and problems with covariance-based source reconstruction methods

Sekihara K

10.05 - 10.30

Analysis of event-related potentials using Statistical Parametric Mapping

Kiebel SJ, Friston KJ

10.30 - 10.45

Coffee Break

10.45 - 11.15

Spatial and temporal correlations in MEG/EEG background noise

de Munck JC, Bijma F, Huizenga HM, Waldorp LJ, Heethaar RM

11.15 - 11.45

Use of surrogate data in the distributed MEG/EEG inverse problem : application to the estimation of dynamic properties of neural networks

David O, Garnero L, Cosmelli D, Varela F

11.45 - 12.10

Analysis of EEG/MEG sources and their lagged covariances

Huizenga HM, Grasman RPPP, Waldorp LJ, de Munck JC, Böcker KBE, Molenaar PCM

12.10 - 12.15

Closing remarks

de Munck JC

10.45 - 12.45	New frontiers in Biomagnetism HS 1, Chairs: Katila T, Hoenig HE
10.45 - 11.30	Evolution of Magnetotactic Bacteria on Mars? Weiss B
11.30 - 12.00	Electrophysiologic Research of Plant Cells by SQUID Systems Trontelj Z, Baudenbacher F, Fong L, Jazbinsek V, Mueller W, Thiel G, Wikswo J, Zorec R
12.00 - 12.15	Differential interaction of magnetic nanoparticles with tumor cells and peripheral blood cells Schwalbe M, Gansau C, Röder M, Buske N, Bahr M, Wagner K, Görnert P, Schnabelrauch M, Pachmann K, Kliche KO, Goetze T, Weitschies W, Höffken K, Clement JH
12.15 - 12.30	MEG and other functional brain topography methods in parkinsonian akinesia Deecke L
12.30 - 13.00	High-Tc SQUIDS for MCG systems in unshielded environment Seidel P
13.00 - 13.30	Closing Session HS 1
14.15	Bus departure to Berlin, in front of the Hotel Esplanade
17.30 - 21.00	Laboratory tour at PTB Berlin

Thursday, August 15, 2002

8.45 - 17.30

Satellite Symposium

MEG - a Tool for Research on Language and Music Perception
at the Max-Planck Institute of Cognitive Neuroscience in Leipzig

8.45 - 12.15

Language Perception

8.45 - 9.00

Welcome speech and introduction to lectures
Knösche TR (Leipzig)

9.00 - 9.40

Contributions of MEG to Neurolinguistics
Papanicolaou A (Houston)

9.40 - 10.20

Early MEG effects in processing of language and music structure
Friederici AD (Leipzig)

10.20 - 10.50

Coffee Break

10.50 - 11.05

Within-subject reproducibility of the cortical representation of phonological features in vowels
Eulitz C (Konstanz)

11.05 - 11.20

Quantitation of the late field for language lateralization: influence of paradigm and analysis thresholds on sensitivity and error rate
Smitka M (San Francisco)

11.20 - 11.35

Neuromagnetic evidence that differences in noun and verb processing are modulated by the presence of a syntactic context
Fiebach CJ (Leipzig)

11.35 - 11.50

Intra- and Inter-Phrase Responses in the Comprehension of Japanese Complex Sentences
Hagiwara H (Sapporo)

11.50 - 12.00

Brief summary
Maess B (Leipzig)

12.00 - 12.30

Podium discussion

12.30 - 13.30

Lunch Break (buffet at conference venue)

13.30 - 17.45

Music Perception

13.30 - 13.45

Introduction to lectures
Maess B (Leipzig)

13.45 - 14.25

Music and Brain: The competition for cortical space
Pantev C (Toronto)

14.25 - 15.05

About neurocognition of music and speech sounds-evidence from electric and magnetic recordings
Tervaniemi M (Helsinki)

15.05 - 15.45	Processing of complex rule-based auditory information in the music domain Kölsch S (Boston)
15.45 - 16.15	Coffee Break
16.15 - 16.30	Enhanced gray matter volume of antero-medial Heschl's gyrus correlates with increased primary source activity in musicians Schneider P (Heidelberg)
16.30 - 16.45	MEG responses from the superior temporal cortex processing unknown melodies Kuriki S (Sapporo)
16.45 - 17.00	Auditory Attention in Relation to Signal Detection and Musical Aptitude: a MEG and EEG Study Sieroka N (Heidelberg)
17.00 - 17.10	Brief summary Knösche TR (Leipzig)
17.10 - 17.40	Podium discussion
17.40 - 17.45	Closing remarks and farewell Maess B (Leipzig)

Poster Sessions

	Sunday	Monday	Tuesday
MEG: epilepsy			
MEG: cognition			
MEG: language & music perception			
MEG: motor systems			
MEG: somatosensory systems			
Fetal MCG			
Fetal MEG			
Cardiac modeling			
Multimodal imaging			
Noninvasive measurements of iron			
MEG: pain			
MEG: auditory systems			
MCG: basic research			
Modeling: forward problem			
Instrumentation			
Signal analysis			
Transcranial magnetic stimulation			
MEG: neurology			
MEG: psychiatry			
MEG: cortical oscillations			
MEG: visual systems			
MCG: clinical applications			
Modeling: inverse problem			
Magnetic methods for understanding of oral drug delivery			
Other biomagnetic applications			

The poster presenters are kindly requested to present their posters during the respective one and ¾ hour poster session. Posters ought to be set up on Saturday, Aug. 10 and to be removed on Wednesday, Aug. 14. The poster areas are indicated in the floor plan on page 61. The poster number will be found on the poster boards.

Sunday, August 11, 2002

MEG: epilepsy

- 1 Combined MEG and EEG Source Imaging of Interictal Activity in Partial Epilepsy**
Baillet S, Adam C, Schwartz D, Leahy RM, Mosher JC, Renault B, Baulac M, Garnero L
- 2 Localizing Value of Ictal MEG in Neocortical Epilepsy**
Barkley GL, Smith BJ, Passaro EA, Minecan DN, Elisevich KV, Mason K, Bowyer SM, Tepley N
- 3 Non-invasive estimation of the cortical networks involved during interictal spikes**
David O, Chavez M, Adam C, Garnero L
- 4 Dissociation of MEG and EEG epileptiform activity in a patient with language regression - A case study**
Funke M, Lewine J, Matsuo F
- 5 Differentiated focus localization: gain of information by means of MEG**
Genow A, Hummel C, Hopfengärtner R, Scheler G, Maess B, Stefan H
- 6 Differences between source localizations from MEG and EEG**
Hummel C, Genow A, Scheler G, Hopfengärtner R, Stefan H
- 7 Magnetoencephalographic statistical parametric mapping of interictal spikes in epileptic patients**
Imai K, Yanagihara K, Mano T, Kamio N, Sakakibara R, Shimono K, Okinaga T, Hirabuki N, Yoshimine T, Ozono K
- 8 MEG analysis of bioccipital positive waves during sleep**
Imai K, Yanagihara K, Mano T, Kamio N, Sakakibara R, Shimono K, Okinaga T, Hirabuki N, Yoshimine T, Ozono K
- 9 Synthetic aperture magnetometry (SAM) compared with electrocorticography (ECoG) in children with focal cortical dysplasia**
Ishii R, Otsubo H, Ochi A, Kitayama M, Xiang J, Snead OC, Pantev C
- 10 Comparative analysis of MEG and scalp EEG for interictal spike detection**
Iwasaki M, Pestana E, Burgess RC, Nakasato N, Shamoto H, Lüders HO
- 11 Propagation analysis of epileptic discharge in temporal epilepsy patients using a magnetoencephalogram**
Kandori A, Oe H, Miyashita K, Date H, Yamada N, Naritomi H, Chiba Y, Murakami M, Miyashita T, Tsukada K
- 12 Application of SAM virtual sensor method for localization of origins and propagation of epileptic discharges in refractory frontal lobe epilepsy**
Kato A, Ninomiya H, Hirata M, Taniguchi M, Saitoh Y, Imai K, Nii Y, Yoshimine Y
- 13 Synthetic aperture magnetometry virtual sensor (SAM-VS) analysis of epileptic gamma-activity of MEG**
Ninomiya H, Kato A, Imai K, Taniguchi M, Nii Y, Hirata M, Yanagihara K, Kishima H, Yoshimine T
- 14 Detectability of Convexity Spikes by Conventional EEG and Helmet MEG**
Park H, Nakasato N, Iwasaki M, Shamoto H, Yoshimoto T
- 15 Magnetoencephalography in Lafora body disease - a case report**
Pizzella V, Verrotti A, Franciotti R, Salusti B, Trotta D, Chiarelli F, Romani GL

- 16 **Presurgical MEG investigation of a patient with epilepsy and extensive cortical malformation**
Scheler G, Hummel C, Genow A, Stefan H
- 17 **A simulation study of frontal lobe epileptic spike localization using real background noise**
Stephen JM, Shih J, Ranken DM, Hudson D, Aine CJ
- 18 **MEG Evaluation After Neurosurgical Treatment**
Tilz C, Kaltenhäuser M, Genow A, Scheler G, Hummel C, Ganslandt O, Stefan H
- 19 **Three-dimensional Integration of Brain Anatomy and Epileptogenic Zones using Magnetic Source Imaging**
Xiang J, Chuang N, Otsubo H, Chuang S, Chitoku S, Holowka S, Sharma R, Hunjan A, Babyn P, Snead OC
- 20 **Unique localization information of MEG in neocortical epilepsy and tumors in four neurosurgical patients**
Akhtari M, Mamelak A, Lopez N, Padilla R, Merrifield W, Sutherling WS
- 21 **Comparison of epileptic region between intracranial EEG recording and MEG using 3D MRI**
Chitoku S, Otsubo H, Xiang YJ, Rutka T, Weiss S, Sharma R, Holowka S, Snead OC
- 22 **MEG and EEG Identification of Epileptiform Transients in Patients with Mesial Temporal Sclerosis**
Funke M, Matsuo F, Lewine J, Davis J, Constantino T
- 23 **Characterization of the ictal onset zone: a multimodal approach including EEG, MEG and high-resolution MRI**
Knake S, Shiraishi H, Stufflebeam S, Wang CM, Ulbert I, Ahlfors SP, Schomer D, Bromfield E, Madsen J, Carr V, Hämäläinen MS, Blume H, Marinkovic K, Schomer D, Halgren E
- 24 **Localisation of Interictal EEG and MEG of Frontal Origin with Electrocortical Validation**
Ossenblok P, de Munck JC, Arends J, Leijten FSS, van 't Ent D, Huiskamp GJ, Boon P
- 25 **Application of whole-head MEG in clinical epileptology**
Pataria E, Lindinger G, Deecke L, Baumgartner C
- 26 **Localization of epileptic spikes: realistic volume conductor vs. Homogeneous sphere**
Paul I, Amo C, Fernandez A, Maestu F, Ortiz T, Wienbruch C
- 27 **The clinical usability of magnetoencephalography (MEG) in recent epilepsy studies**
Putkonen P, Ylinen A, Katila T
- 28 **A whole-head magnetoencephalography (MEG) study of children with benign partial epilepsy: location of focal epileptiform discharges correlates with selective cognitive deficits**
Weiskopf N, Wolff M, Serra E, Birbaumer N, Krägeloh-Mann I, Preißl H

MEG: cognition

- 29 **Neural correlates of "theory of mind" in emotional vignettes comprehension studied with spatially filtered magnetoencephalography**
Ishii R, Gojmerac C, Gallup G, Alexander MP, Stuss DT, Pantev C
- 30 **Analysis of MEG responses during a visual-word memory task**
Takeuchi F, Kuriki S
- 31 **Effects of unpleasant smell revealed by event-related potentials and neuromagnetic fields**
Tonoike M, Yamaguchi M, Koizuka I, Seo R
- 32 **Insights into memory function using Magnetic Source Imaging.**
Castillo EM, Simos PG, Breier J, Fitzgerald ME, Sarkari S, Papanicolaou AC
- 33 **Spatiotemporal Brain Mapping of Word Retrieval from Episodic Memory**
Dhond RP, Wagner AD, Dale AM, Witzel T, Halgren E
- 34 **Hippocampal Activation during Performance of Transverse Patterning Using Magnetoencephalography**
Hanlon FM, Weisend MP, Huang MX, Moses SN, Thoma RJ, Paulson KM, Miller GA, Canive JM, Lee RR
- 35 **The estimation of sources related to visually and somatosensory evoked P300m magnetic field**
Maeno T, Kamiya S, Sekino M, Iramina K, Ueno S
- 36 **Anatomically- and functionally-constrained MEG activity to normal, inverted and distorted faces**
Marinkovic K, Glessner M, Dale AM, Halgren E

MEG: language & music perception

- 37 **Enhancement of Multiple Components of the Auditory Evoked Potential in Nonmusicians by Training for Pitch Discrimination with 40-Hz Amplitude Modulated Tones**
Bosnyak DJ, Eaton RA, Roberts LE
- 38 **MEG Fields from Normal Readers and Individuals with Dyslexia During Language Tasks**
Bowyer SM, Moran JE, Barkley GL, Tepley N
- 39 **Cortical representation for second language phonemes spoken by multi-speakers: A MEG study**
Funatsu S, Imaizumi S, Hashizume A, Kurisu K
- 40 **Determination of language dominance using synthetic aperture magnetometry: comparison with Wada test**
Hirata M, Kato A, Saitoh Y, Ninomiya H, Taniguchi M, Kishima H, Yoshimine T
- 41 **MEG responses from the superior temporal cortex processing unknown melodies**
Kuriki S, Hashimoto T, Isahai N
- 42 **The Auditory N1m Reveals Vowel Identity Representation in the Left Hemisphere of Human Auditory Cortex**
Mäkelä AM, Alku P, May P, Tiitinen H

- 43 **Extraction of phonological features from spoken vowels is mirrored by the MEG response**
Obleser J, Eulitz C
- 44 **Enhancement of Neuroplastic Late Auditory Evoked Potentials in Skilled Musicians**
Shahin A, Bosnyak D, Kucharski E, Trainor LJ, Pantev C, Roberts LE
- 45 **Insights into the brain mechanism for reading using MSI and electrocortical stimulation mapping**
Simos P, Sarkari S, Castillo EM, Fletcher J, Papanicolaou A
- 46 **Distinct spatiotemporal activation profiles in dyslexic children**
Simos P, Sarkari S, Castillo EM, Fletcher J, Papanicolaou A
- 47 **Task difficulty influences the magnetic N400m response**
Sivonen P, Maess B, Pilz K, Friederici AD
- 48 **Neuromagnetic measurement during music listening with the changes of playing tempo**
Sutani K, Kaetsu I, Iwaki S, Tonoike M, Yamaguchi M, Uchida K
- 49 **Neuromagnetic signals associated with sentence recognition task**
Sutani K, Kaetsu I, Iwaki S, Tonoike M, Yamaguchi M, Uchida K
- 50 **Distinct Profiles of Brain Activation in Reading Different Types of Japanese Scripts**
Valaki CE, Maestú F, Fernández A, Amo C, Papanicolaou AC, Ortiz T
- 51 **Cortical processing of speech and non-speech stimuli in the irrelevant sound effect**
Valtonen J, May P, Mäkinen V, Alku P, Tiitinen H
- 52 **Neuronal activation during reading English and Japanese-Kana pseudohomophones by a bilingual with monolingual dyslexia: a MEG study**
Wydell TN, Kondo T, Mashiko T
- 53 **Lexical Judgments Analyzed Using an fMRI-constrained MEG-dipole Method**
Fujimaki N, Hayakawa T, Okabe Y, Miyauchi S
- 54 **Magnetic brain activity evoked by word and non-word stimuli - a study in young adults**
Gloser Ch, Huonker R, Rosburg T, Emmerich E
- 55 **Lateralized networks for speech perception**
Härle M, Keil A, Wienbruch C, Elbert T, Rockstroh B
- 56 **Magnetic Mismatch Fields elicited by Duration and Pitch Changes in tonal analogs of Japanese words: an investigation of native speakers and non-speakers**
Inouchi M, Kubota M, Ferrari P, Roberts TPL
- 57 **Neuronal Syntactic Error Gravity: Comparison between L1 and L2 speakers**
Kubota M, Ferrari P, Roberts TPL
- 58 **Improvement of Discriminative Perception of Mora-timing as reflected by MEG measurements**
Menning H, Schwarz O, Pantev C
- 59 **Visual attention to words in different languages in early bilinguals: a magnetoencephalographic study**
Pihko E, Nikulin VV, Ilmoniemi RJ

MEG: motor systems

- 60 **Measurement of movement related magnetic fields in preparing parameters for motor programming process**
Kotani K, Horii K, Tonoike M
- 61 **Electromyography and motion onset facilitates the determination of movement related fields in MEG**
Schauer M, Waldmann G, Woldag H
- 62 **Activation of Human Primary Motor Cortex during Observation of Jaw Movements**
Shibukawa Y, Shintani M, Kumai T, Kato Y, Kato M, Suzuki T, Nakamura Y
- 63 **Single-trial DC-MEG analysis of slow pericentral neuronal activations during simple and complex finger movements**
Leistner S, Wübbeler G, Mackert BM, Trahms L, Curio G
- 64 **Synchronization tomography: 3D-localization of phase synchronized neuronal activity in the human brain using magnetoencephalography**
Tass PA, Fieseler T, Dammers J, Morosan P, Majtanik M, Boers F, Muren A, Zilles K, Fink GR

MEG: somatosensory systems

- 65 **Magnetencephalographic representation of the periodontal sensation from bilateral maxillary permanent canine teeth in human primary somatosensory cortex**
Mochizuki K, Sekine H, Shibukawa Y, Shintani M, Yakushiji M, Suzuki T, Ishikawa T
- 66 **The activities of area 3a following periodontal mechanical stimulation**
Sekine H, Shibukawa Y, Suzuki T, Kishi M, Shintani M, Ishikawa T
- 67 **A New Method For Magnetoencephalography: Virtual Magnetocorticogram**
Takanashi Y, Kajihara S, Yamatani M, Iwamoto K, Yoshida Y
- 68 **Distal-proximal representation of the digit in human somatosensory area 3b**
Tanosaki M, Iguchi Y, Hoshi Y, Hashimoto I
- 69 **A MEG Study of the Interaction of Electrical Simultaneous Stimulations in Somatosensory Cortices Varying the Intensity of the Interfering Stimulus.**
Torquati K, Pizzella V, Della Penna S, Franciotti R, Babiloni C, Romani GL, Rossini PM
- 70 **Volumetric Localization of Somatosensory Cortex using Magnetic Source Imaging in Children**
Xiang J, Chuang SH, Holowka SA, Babyn P, Otsubo H, Sharma R, Hunjan A
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Eiselt M, Flemming L, Gießler F, Haueisen J, Zwiener U
- 72 **Neuromagnetic imaging of somatosensory cortex using a minimum-variance beamformer and dipole source localization**
Gaetz W, Cheyne D
- 73 **Somatosensory Evoked Fields for Median and Tibial Nerve Stimulation in Comatose Survivors After Head Trauma**
Kanno A, Nakasato N, Iwasaki M, Hatanaka K, Yoshimoto T

- 74 Lasting effects of associative peripheral-cortical stimulation on the excitability of somatosensory cortex**
Mima T, Siebner H, Chen WH, Satow T, Oga T, Hara H, Nagamine T, Shibasaki H
- 75 Rapid Mapping of Finger Representations in Human Primary Somatosensory Cortex Applying Neuromagnetic Steady-State Responses**
Pollok B, Moll M, Schmitz F, Müller K, Schnitzler A

fetal MCG

- 76 Flux transformer for fetal magnetocardiography in an unshielded environment.**
Bachir W, Dunajski Z
- 77 Foetal Magnetocardiography in perinatal diagnostics**
Comani S, Liberati M, Lagatta A, Stefanachi M, Di Luzio S, Gerboni S, Romani GL
- 78 Heart rate variability in growth retarded fetuses as determined by fetal magnetocardiography**
Lange S, van Leeuwen P, Leven A, Klein A, Hatzmann W, Grönemeyer D
- 79 Amplitude of the P and QRS Components of the Fetal MCG in Normal and Fetal Arrhythmia Subjects**
Li Z, Wakai RT
- 80 Beat Morphology Variations in Fetal Arrhythmia Detected by Multichannel Fetal Magnetocardiography**
Sturm R, Müller HP, Pasquarelli A, Demelis M, Lang D, Erné SN
- 81 Fetal Magnetocardiography (FMCG) in the investigation of congenital heart defects (CHD)**
Kähler C, Schleußner E, Grimm B, Schneider U, Haueisen J, Vogt L, Seewald HJ
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Ronneburger A, Kähler C, Hoyer D, Schleußner E, Schneider U, Grimm B, Haueisen J, Seewald HJ
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Schleußner E, Kähler C, Grimm B, Haueisen J, Schneider U, Seewald HJ

fetal MEG

- 84 Short-term serial magnetoencephalography recordings of fetal auditory evoked responses**
Eswaran H, Preißl H, Robinson SE, Wilson JD, Vrba J, Murphy P, Rose D, Lowery CL
- 85 Neonatal magnetoencephalography and spectral analysis**
Kotini A, Anninos P, Koutlaki N, Adamopoulos A, Galazios G, Anastasiadis P
- 86 Observation of the Unaveraged Fetal MEG using the SARA Instrument**
Lowery CL, Robinson SE, Vrba J, Rose D, Preißl H, Eswaran H, Wilson JD, Murphy P
- 87 Separating Fetal MEG Signals from the Noise**
Robinson SE, Vrba J, McCubbin J

- 88 Influence of Intrauterine Growth Retardation on Auditory Evoked cortical Fields (AEF) in fetal Magnetoencephalography (fMEG)**
Schleußner E, Kentner A, Hauelsen J, Kähler C, Schneider U, Seewald HJ
- 89 Determinants of fetal neurological maturation assessed in fetal magnetoencephalography (fMEG)**
Schneider U, Schleußner E, Kähler C, Hauelsen J, Seewald HJ

Cardiac modeling

- 90 Model of current distribution generated by extended electrical sources and its use for current maps classification**
Vasetsky Y, Chaikovsky I

Multimodal imaging

- 91 Presurgical mapping of the central region in patients with brain tumors: is BOLD contrast fMRI always discriminating?**
Caulo M, Ferretti A, Del Gratta C, Colosimo C, Tartaro A, Bonomo L, Romani GL
- 92 Design and Analysis of Nonlinear filter for Magnetic Resonance images on Wavelet-Based Method**
Cheol KS
- 93 Spatiotemporal Patterns of Human Navigation Investigated by MEG and fMRI**
De Araujo DB, Salles A, Tedeschi W, Santos AC, Araujo D, Baryshnikov B, Wakai RT, Baffa O
- 94 Brain Activation during a Visuo-Motor Working Memory Task studied by means of Event-Related fMRI**
Del Gratta C, Babiloni C, Carducci F, Ferretti A, Tartaro A, Bonomo L, Romani GL, Rossini PM
- 95 Brain Activation during Sensory Image Generation studied by means of fMRI**
Del Gratta C, Di Matteo R, De Nicola A, Ferretti A, Tartaro A, Bonomo L, Romani GL, Belardinelli MO
- 96 MEG-fMRI Multimodal Imaging in One Single Software Environment**
Erné SN, Demelis M, Pasquarelli A, Ludolph A, Müller HP, Kassubek J
- 97 An fMRI study of activation of SII and adjacent cortices elicited by median nerve stimulation at different stimulus intensities**
Ferretti A, Del Gratta C, Caulo M, Babiloni C, Tartaro A, Bonomo L, Rossini PM, Romani GL
- 98 Combining Brain Recording Technologies: Using of Brain Surfaces**
Fuchs A
- 99 A New Brain Function Mapping Method Using the Dynamic Susceptometry - A Feasibility Study**
Lee SY, Cho MH, Yang JS, Park TS, Han SW, Byun HS, Huh Y
- 100 The OMEGA Software - Application in fMRI Studies of Bimanual Coordination**
Müller HP, Scharpf S, Loichinger W, Ludolph A, Kraft E, Erné SN
- 101 Optically Coregistered MEG/MRI Markers**
Pasquarelli A, Lindenthal H, Müller HP, Erné SN

- 102 Comparative MEG-fMRI study of the human somatosensory cortex**
Schulz M, Chau W, Graham S, Ishii R, Ross B, Pantev C
- 103 Functional Neuroanatomy of Simple Mental Arithmetic and Multiplication Tables Repetition: A Functional Magnetic Resonance Imaging Study**
Wang L, Saito M
- 104 EEG and radiothermographic mapping during cognitive performance in Chernobyl patients**
Zhavoronkova L, Kuznetsova G, Gabova A, Passechnik V, Selsky A, Kholodova N, Yanovich A, Lavrova T
- 105 The Role of the Left Angular/Supramarginal Gyrus in Japanese Kanji Reading**
Hara H, Wyddell T, Oga T, Aso T, Mima T, Nagamine T, Fukuyama H, Shibasaki H
- 106 Mapping brain activity with respect to brain anatomy: a MEG/cytoarchitectonic study**
Morosan P, Dammers J, Mohlberg H, Niedeggen M, Hesselmann G, Boers F, Muren A, Amunts K, Zilles K, Tass PA

Noninvasive measurements of iron

- 107 Liver iron assessment in rats by using NMR: a simple statistical analysis on T2 maps**
Bortolazzi M, Fenzi A
- 108 Preliminary Liver Iron Evaluation Using an AC Superconducting Magnetic Susceptometer**
Carneiro AAO, Baffa O, Angulo IL, Covas DT
- 109 The influence of thorax tissue in Biomagnetic Liver Susceptometry (BLS)**
Fischer R, Engelhardt R, Nielsen P
- 110 A Room-Temperature Susceptometer to Measure Liver Iron: Susceptometer Design and Performance**
Kumar S, Avrin WF, Hecht D, Trammel HS, Perry AR, Freeman WN, McManus T
- 111 Three phase magnetization method: An improved way of magnetopneumographic measurement**
Nakadate T, Yagami T, Zheng Y, Kotani M
- 112 An AC Magnetising Field Susceptometer for Liver Iron Concentration Assessment**
Della Penna S, Del Gratta C, Cianflone F, Ern  SN, Granata C, Pentiricci A, Pizzella V, Russo M, Romani GL
- 113 Relationship Between Magnetic Susceptibility and Proton Transverse Relaxation Rates in Packed Human Red Blood Cells**
Pontre B, Chua-Anusorn W, Robins E, StPierre T
- 114 Biomagnetic liver susceptometry in children with transfusional iron overload, younger than 4 years**
Engelhardt R, D rken M, Fischer R, Kordes U, Janka-Schaub G, Longo F, Piga A, Nielsen P
- 115 Applications of biomagnetic liver susceptometry in hematological disorders.**
Fischer R, Batzella MG, Borgna-Pignatti C, Capra M, Caruso V, De Sanctis V, Di Gregorio F, D rken M, Engelhardt R, Eber S, Forni GL, Fragatou S, Galanello R, Gamberini MR, Graubner UB, Janka GE, et al.

Monday , August 12, 2002

MEG: auditory systems

- 116 Change of N1m Latency by Simultaneous Visual - Auditory Stimulation**
Adachi S, Kobayashi A, Shiroto T, Ono Y, Ishiyama A, Kasai N, Tonoike M
- 117 Frequency specificity of auditory SSR to simultaneously presented AM tones**
Draganova R, Ross B, Pantev C
- 118 Cortical representation of pitch and timbre of the missing fundamental of complex sounds**
Fujioka T, Okamoto H, Takeshima Y, Kakigi R, Ross B, Pantev C
- 119 Cortical representation of pitch contour and interval changes of melodies**
Fujioka T, Trainor LJ, Ross B, Kakigi R, Pantev C
- 120 The voice-specific process revealed by neuromagnetic responses**
Gunji A, Levy D, Ishii R, Kakigi R, Pantev C
- 121 The Effect of Tone Pulses with Fluctuating Inter-Stimulus Intervals on The Elicitation of a GO/NO-GO Response**
Harada N, Nakagawa S, Iwaki S, Holroyd T, Yamaguchi M, Tonoike M, Moriya T
- 122 Auditory mechanisms detecting sound-stream and categorical violations:A MEG mismatch study**
Imaizumi S, Funatsu S, Seki H, Mori K, Hishizume A, Kurisu K
- 123 Selective attention to pitch or laterality induces short-term plasticity in human auditory cortex**
Jin YC, Ozaki I, Suzuki Y, Baba M, Matsunaga M, Hashimoto I
- 124 Object Representation of Sequential and Simultaneous Binaural Sounds**
Knief A, Schulte M, Lamprecht-Dinnesen A, Pantev C
- 125 Entrainment decreases peak amplitude, but increases autocorrelation, in the auditory evoked response to target tones.**
Martin T, Pearson-Bish P, Houck J, Ilmoniemi RJ, Tesche CD
- 126 Auditory MEG Responses Predict Behavioral Sound Detection in Humans**
Mäkinen V, May P, Tiitinen H
- 127 Effects of tone frequency on brain cortical activities evoked by bone-conducted sounds**
Nakagawa S, Yamaguchi M, Tonoike M, Hosoi H, Imaizumi S, Watanabe Y
- 128 Specific evaluating method and therapeutic approach for chronic dizzy sensation**
Oe H, Kandori A, Ohira S, Miyashita K, Date H, Murakami M, Miyashita T, Tsukada K, Naritomi H
- 129 Auditory Evoked N100m as a Possible Landmark of Posterior Language Area in Patients with Temporal Lobe Gliomas**
Ohtomo S, Nakasato N, Kumabe T, Kanno A, Hatanaka K, Yoshimoto T
- 130 A new stimulation paradigm for the investigation of auditory habituation effects**
Okamoto H, Ishii R, Ross B, Curli-Guy E, Nedzelski JM, Kubo T, Kakigi R, Pantev C
- 131 Differences in equivalent current dipole parameters between two magnetoencephalograph(MEG) systems - N100m study**
Osaki Y, Noda K, Nishimura H, Nakagawa S, Tonoike M, Doi K, Kubo T

- 132 **Dynamic anterolateral movement of auditory N100m dipoles reflects activation of isofrequency bands through horizontal fibers**
Ozaki I, Jin YC, Suzuki Y, Baba M, Matsunaga M, Hashimoto I
- 133 **MEG sees deep sources: Measuring and modelling brainstem auditory evoked fields**
Parkkonen L, Mäkelä J
- 134 **Auditory evoked steady-state magnetic fields reveal temporal processing in human primary auditory cortex**
Ross B, Pantev C
- 135 **Magnetic mismatch negativity study reveals alcohol-induced deterioration of pre attentive auditory processing**
Rossi ME, Yamashita H, Kähkönen S
- 136 **Sources of MEG vs EEG auditory steady-state responses**
Schoonhoven R, Boden CJR, Verbunt JPA, de Munck JC
- 137 **Virtual pitch of non-simultaneous successive harmonics**
Schulte M, Knief A, Ross B, Makeig S, Pantev C
- 138 **MEG correlates of pitch and spectrum in the auditory cortex**
Seither-Preisler A, Krumbholz K, Lütkenhöner B
- 139 **Interindividual and interhemispheric differences of brain function: An MEG study of auditory short-term adaptation**
Sörös P, Teismann I, Manemann E, Michael N, Pfeleiderer B, Ross B, Pantev C
- 140 **Representation of auditory space in human auditory cortex: Effects of ILD, ITD and 3D stimulation techniques**
Tiitinen H, Palomäki K, Mäkinen V, May P, Alku P
- 141 **Auditory Evoked Magnetic Field for the Backward Masking Stimulus**
Watanabe K, Kawakatsu M, Uchikawa Y, Adachi M, Kotani M
- 142 **Off-response to pure tone is affected by the same-side previous tone**
Watanabe M, Imada T
- 143 **Dynamics of Sound Motion Processing in Human Brain: A Magnetoencephalographic Study**
Xiang J, Daniel SJ, Ishii R, Chitoku S, Otsubo H, Chuang S, Deng Y, Harrison RV, Babyn P
- 144 **Asymmetrical Enhancement of Middle-latency Auditory Evoked Fields with Aging**
Yamada T, Nakamura A, Bundo M, Horibe K, Washimi Y, Kato T, Ito K, Kachi T
- 145 **A magnetic correlate of pre-attentive periodicity analysis**
Berti S, Schröger E, Mecklinger A, Herrmann C, Maess B
- 146 **Increased event-related activity in the anterior cingulate cortex in normals by high attention in EEG and MEG recordings**
Burghoff M, Soppa K, Knappe-Grüneberg S, Gallinat J, Trahms L
- 147 **Auditory tonotopic mapping using synthetic aperture magnetometry(SAM)**
Daniel SJ, Xiang J, Harrison RV
- 148 **The MEG response to the onset of pitch in a continuous sound**
Krumbholz K, Patterson RD, Seither-Preisler A, Lammertman C, Lütkenhöner B
- 149 **Current density reconstruction of uni- and multi-sensory responses using high resolution EEG**
Lee BR, Halm JH, Kang KH, Kang DH, Kwon JS, Park KS

- 150 A magnetoencephalographic window onto primary auditory cortex**
Lütkenhöner B, Krumbholz K, Lammertmann C, Seither-Preisler A, Steinsträter O, Patterson RD
- 151 The Dipole Location Shift within the Auditory Evoked Neuromagnetic Field Components N100m and Mismatch Negativity (MMNm)**
Rosburg T, Haueisen J, Kreitschmann-Andermahr I
- 152 Dependence of the N100m amplitude on spectral bandwidth**
Seither-Preisler A, Krumbholz K, Lütkenhöner B
- 153 How and Where is Multi-Component Amplitude Modulation Processed in the Brain?**
Simpson MIG, Johnson SR, Barnes GR, Hillebrand A, Holliday IE, Green GGR
- 154 Hemispheric difference of response curve of auditory N100m**
Terasaki O
- 155 Stability of Long-Term Magnetic DC-Field Recordings: The Model of Acoustically Evoked Temporal Lobe Activity**
Wübbeler G, Mackert BM, Burghoff M, Curio G, Trahms L

MEG: pain

- 156 Cortical responses to intra-epidermal electrical stimulation in humans**
Inui K, Tran TD, Qiu Y, Wang X, Hoshiyama M, Kakigi R
- 157 Multiple-source analysis of pain-related somatosensory evoked magnetic fields in humans**
Wang X, Inui K, Qiu Y, Hoshiyama M, Tran TD, Kakigi R
- 158 MEG and EEG evoked by painful stimuli: differences and similarities**
Zimmermann R, Saager C, Bromm B

MCG: basic research

- 159 Analysis of a Secondary Activity during Reentry Propagation in Rabbit Atrial Tissue**
Andrade Lima EA, Marchesin D, Costa Monteiro E, Hall Barbosa C, Haueisen J
- 160 Experimental Detection of Reflected Reentry Propagation in Rabbit Atrial Tissue Using a Multi-Channel SQUID System**
Costa Monteiro E, Eiselt M, Gießler F, Haueisen J, Hall Barbosa C, Andrade Lima EA
- 161 Vortex Currents in a Physical Phantom - Comparison of Magnetic and Electric Signal Strength**
Dutz S, Bellemann ME, Haueisen J
- 162 In vitro laser photocoagulation of ventricular myocardium during multichannel MCG mapping and multi-MAP recording with amagnetic catheters**
Fenici R, Brisinda D, Fenici P
- 163 Multimodal integration of MAP recordings and MCG imaging in patients with paroxysmal atrial arrhythmias, using the MultiMAP amagnetic catheter**
Fenici R, Brisinda D, Nenonen J, Mäkijärvi M, Fenici P
- 164 Spatial Spectral Approach to the Diagnostics Problems in MCG**
Golyshev NV, Golyshev DN, Motorin SV, Rogatchevsky BM, Greenberg YS, Pudov VS

- 165 Tests of PCA and ICA noise compensation in magnetocardiographic recordings of a physical thorax phantom**
Liehr M, Schreiber J, Karvonen M, Nenonen J, Haueisen J
- 166 A clinical pilot study on the localization accuracy of noninvasive imaging of ventricular pre-excitation**
Fischer G, Tilg B, Modre R, Berger T, Gozolits S, Hanser F, Messnarz B, Hintringer F, Roithinger FX
- 167 Synchronization of MCG Data Processing for Single Channel SQUID System**
Huang XG, Zhang LH, Chen GH, Yang QS, Feng J, Liu YP, Chen WC, Wang ZQ
- 168 Methods for non-invasive source imaging of myocardial ischemia**
Schreiber J, Haueisen J, Leder U, Nenonen J, Hänninen H, Mäkelä T, Takala P, Katila T, Mäkijärvi M, Toivonen L, Lauerma K, Knuuti J
- 169 Model of current distribution generated by extended electrical sources and its use for current maps classification**
Vasetsky Y, Chaikovsky I

Modeling: forward problem

- 170 Influence of realistic skull and white matter anisotropy on the inverse problem in EEG/MEG-source localization**
Anwander A, Wolters C, Dörmelmann M, Knösche TR
- 171 Estimating tissue resistivity distribution by using in vivo EEG and MEG data**
Baysal U, Haueisen J
- 172 MEG Spherical Forward Model for Accurate Source Localization**
Chen LF, Chen YS, Wu YT, Lee PL, Yeh TC, Ho LT, Hsieh JC
- 173 Comparison of BEM and FEM methods for the E/MEG problem**
Clerc A, Dervieux M, Faugeras O, Keriven R, Kybic J, Papadopoulos T
- 174 Segmentation of Patient Specific MEG/EEG Skull, Scalp, and Brain Models from MRI**
Dogdas B, Shattuck DW, Leahy RM
- 175 Sensitivity of inverse source reconstruction results towards forward model inaccuracies: Application of a universal sensitivity analysis software framework on different tissue conductivity ratios**
Dörmelmann M, Knösche TR, Anwander A, Wolters C
- 176 Standardized Boundary And Finite Element Method Volume Conductor Models**
Fuchs M, Wagner M, Kastner J
- 177 Estimating Conductivities and Dipole Source Signal with EEG Arrays**
Gutiérrez D, Nehorai A, Muravchik C, Lewine J
- 178 Investigation and Validation of Diffusion Tensor Imaging Using Model Substances**
Güllmar D, Jaap T, Bellemann ME, Haueisen J, Reichenbach JR
- 179 Model studies of the electric potential and the magnetic field from deep sources in the brain**
Haberkorn W
- 180 Do EEG and MEG measure dynamically different properties of neural activity?**
May PJ
- 181 Effect of High and Low Resolution Head Models on EEG Simulations**
Ramon C, Haueisen J, Schimpf PH, Gosh SR, Nguyen MD

- 182 Numeric Approximations of Ideal Dipoles**
Schimpf PH, Haueisen J, Ramon C
- 183 Analysis of the Influence of Holes in the Rabbit Head on the Magnetic Field**
Ziolkowski M, Brauer H, Haueisen J
- 184 Characterization of MEG/EEG signals generated by simultaneous sources**
Ahlfors SP, Lin FH, Witzel T, Dale AM, Belliveau JW, Halgren E
- 185 MEG, EEG source localization and conductivities of the live human skull**
Akhtari M, Bryant H, Flynn E, Lopez N, Padilla R, Merrifield W, Mamelak A, Sutherling WS
- 186 Effects of Torso Model Heterogeneity on Body Surface Potentials**
Ramon C, Schimpf PH, Haueisen J, Ishimaru A
- 187 Simulation of 3D Electromagnetic Bio-Impedance Measurement Using Edge Finite Elements**
Soleimani M, Lionheart W
- 188 Computation of Potential and Magnetic Field Distributions for a Sphere With Varying Anisotropy Configuration Using Finite Element Method**
Tanzer O, Nenonen J, Ilmoniemi RJ
- 189 Simulations of Hippocampal and Nearby Temporal Lobe Activity in Magnetoencephalography**
Weisend MP, Hanlon FM, Moses SN, Huang MX, Lee RR

Instrumentation

- 190 A vector SQUID gradiometer system for measurement of magnetic fields evoked from spinal cord and peripheral nerves**
Adachi Y, Kawai J, Uehara G, Higuchi M, Kawabata S, Okubo H, Komori H, Kado H
- 191 Sensitive HTS dc-SQUID system for biomagnetic measurements**
Faley M, Poppe U, Urban K, Slobodchikov VY, Maslennikov YV, Gapelyuk A, Sawitzki B, Schirdewan A
- 192 Active compensation for multi-channel high temperature superconductor MCG system**
Hayashi A, Hirata Y, Kuriki S
- 193 Accurate co-registration for MEG reconstructions**
Hironaga N, Schellens M, Ioannides AA
- 194 Novel method for detecting an impedance magnetocardiogram**
Kandori A, Suzuki D, Yokosawa K, Tsukamoto A, Miyashita T, Tsukada K, Takagi K
- 195 Study on a new shielding method composed of magnetic shielding panels**
Kato K, Yamazaki K, Sato T, Haga A, Ueda T, Kobayashi K, Yoshizawa M
- 196 Measurements of nerve signals by using a small 10-channel SQUID magnetometer system**
Kawai J, Adachi Y, Higuchi M, Uehara G, Ogata H, Haruta Y, Shimogawara M, Kado H
- 197 Development of a High Resolution SQUID Magnetometer for Living Tissue**
Kobayashi K, Hashimoto H, Kawakatsu M, Uchikawa Y, Kotani M, Odawara A, Chinone K
- 198 The 7-channel dc-SQUID-based MCG-system for use in an unshielded environment**
Maslennikov Y, Slobodchikov V

- 199 A Non-Magnetic Ergometer for MCG Stress Testing**
Pasquarelli A, Schless BG, Müller HP, Hombach V, Ern  SN
- 200 Algorithm of axial gradiometers additional balancing in the not uniform magnetic field**
Primin M, Nedayvoda I, Vassilyev V, Sosnitsky V, Steinberg F, Sutkovoy P, Minov Y
- 201 High Efficiency FRP DEWARS for Biomagnetism**
Shnyrkov V, Zinoviyev PV, Zheltov PN
- 202 A Liquid Helium Re-circulation System**
Takeda T
- 203 Magnetic fields and gradients unshielded and in shielded rooms**
Vrba J, McCubbin J, Bardouille T, McKay J, Taylor B, Tillotson M, Schroyen C
- 204 The application of CPLD in MCG system**
Wu F, Zhang LH, Yuan MS, Huang XG, Feng J
- 205 Accurate registration of MEG/MRI data using fixed bite-bar based fiducials and surface matching**
Adjamian P, Barnes G, Hillebrand A, Holliday I, Furlong P, Singh K, Harrington E, Barclay C, Route J
- 206 Artifact Quantification of Accessories in MEG using a non-magnetic movement device**
Boers F, Barthmann D, Dammers J, Fieseler T, Muren A, Tass PA
- 207 Optimisation of active shielding of a two-layer MSR**
Holmlund C, Meinander T, Penttinen A, Sepp  H
- 208 Phantom and Human Evoked Response Source Localization Results for the Los Alamos Superconducting Imaging-Surface MEG System**
Kraus Jr. RH, Volegov P, Matlachov A, Maharajh K, Espy M, Lee RR, Steven J
- 209 Magnetocardiography in unshielded environment**
Sch ler R, Quereng sser J, Krellig M, Solbrig O, Peiselt K, Anton AS, Linzen S, H bner U, Schmidt F, Schmidl F, Seidel P
- 210 Electronic planar gradiometers for magnetocardiogram using HTS directly coupled magnetometers**
Tsukamoto A, Yokosawa K, Suzuki D, Fukazawa T, Miyashita T, Kandori A, Tsukada K, Takagi K
- 211 Integrated orthogonal low-Tc SQUID gradiometers for estimating current distribution**
Yokosawa K, Suzuki D, Tsukada K, Tsukamoto A
- 212 A Portable MCG System for Unshielded Environment using HTS SQUID Gradiometer**
Zhang Y, Wolters N, Schubert J, Lomparski D, Banzet M, Panaitov G, Krause HJ
- 213 Magnetic Imaging of Large Structures Using SQUID Magnetometers**
Zhuravlev YE, Rassi D, Mishin A, Markin A, Zakharkin AK, Mogilatov V

Signal analysis

- 214 A Mathematical Model for the Temporal Covariance of the Background Noise in MEG/EEG-measurements**
Bijma F, de Munck JC, Huizenga HM, Heethaar RM
- 215 Group analysis for the synthetic aperture magnetometry (SAM) data**
Chau W, Ishii R, Ross B, McIntosh AR, Pantev C
- 216 AUTOALIGN: A New Methodology for the Alignment of fMRI Time Series**
Ciulla, Deek, McHugh
- 217 Phantom tests of SSP noise compensation in magnetocardiographic recordings**
Karvonen M, Nenonen J, Hämäläinen MS, Parkkonen L, Liehr M, Schreiber J, Montonen J, Ilmoniemi RJ, Haueisen J, Katila T
- 218 Artifact Removal with Principal and Independent Component Analysis**
Kastner J, Fuchs M, Wagner M
- 219 The discrimination index of the evoked field components in ICA components.**
Kawakatsu M, Ishibashi H, Kobayashi K, Kotani M, Uchikawa Y
- 220 Application of singular value decomposition analysis to biomagnetic signals with three-dimensional magnetic measurement**
Kim BS, Kawakatsu M, Uchikawa Y, Kotani M, Hosaka H, Kobayashi K
- 221 Classifying MEG 20Hz Rhythmic Signals of Left, Right Index Finger Movement And Resting State Using Radial Basis Functions Network**
Lee PL, Wu YT, Chiu HF, Chen LF, Shyu KK, Yeh TC, Hsieh JC
- 222 Extraction of Atrial Cardiac Activity from MCG Recordings of Periodic Tachyarrhythmias in Humans**
Lima EA, Marchesin D, Costa Monteiro E
- 223 Latency Identification in Echo Perception by a New MEG Measure**
Matani A, Kuno S
- 224 Use of the reference magnetometric channels for noise suppression in biomagnetic investigations**
Vassilyev V, Primin M, Nedayvoda I, Steinberg F, Sosnitsky V, Sutkovoy P, Minov Y
- 225 Spatial redistribution of fMEG signals by projection operators**
Vrba J, Robinson SE, McCubbin J, Lowery CL, Preißl H, Eswaran H, Wilson D, Murphy P
- 226 Classifying MEG Data of Left, Right Index Finger Movement And Resting State Using Support Vector Machines**
Wu YT, Chen HY, Lee PL, Chen YS, Chen LF, Hsieh JC
- 227 Single-trial Quantification of Imagery Beta-band Mu Rhythm in Finger Lifting Task Using Independent Component Analysis (ICA)**
Wu YT, Lee PL, Chen LF, Yeh TC, Hsieh JC
- 228 Influence of the "Open Lung Concept" on Baroreceptors in Post Operative Atelectasis**
Baier V, Hillmann D, Baumert M, Knebel FG, Voss A
- 229 Synchronization Tomography: model calculations to test spatial resolution and noise tolerance**
Fieseler T, Dammers J, Tass PA

- 230 Characterizing correlated activity in cognitive tasks with MEG**
Kujala J, Gross J, Schnitzler A, Salmelin R
- 231 Comparing nonparametric and parametric spectral estimators in MEG analysis**
Schiek M, Morosan P, Tass PA
- 232 Investigation of Cardiovascular Interactions in Patients with Congestive Heart Failure**
Schröder R, Hoyer D, Leder U, Voss A
- 233 Breathing Artifact Removal from MCG Time Series**
Sternickel K

Transcranial magnetic stimulation

- 234 The biological effects of magnetic stimulation in epileptic patients**
Anninos P, Kotini A, Adamopoulos A, Tsagas N
- 235 Cerebellar transcranial magnetic stimulation evoked long latency potential in the soleus muscle**
Sakihara K, Ihara A, Izumi H, Kono K, Takahashi Y, Imaoka I, Yorifuji S
- 236 Effects of Repetitive Transcranial Magnetic Stimulation on Rat Brain Cells**
Funamizu H, Ogiue-Ikeda M, Kawato S, Ueno S
- 237 The effect of tissue heterogeneity and anisotropy on the spatial distribution of the electric field induced by transcranial magnetic stimulation**
Miranda PC, Hallett M, Basser PJ

MEG: neurology

- 238 Magnetoencephalographic Imaging of Language Processes**
Bowyer SM, Mason K, Moran J, Barkley GL, Tepley N
- 239 Visual Evoked MEG Fields in Migraine Patients**
Bowyer SM, Nagesh V, Moran JE, Tepley N, Welch KMA
- 240 Locations of sharp wave and slow wave generators in patients with brain tumors**
de Jongh A, Baayen JC, de Munck JC, Puligheddu M, Stam CJ
- 241 Vertex sharp waves during sleep localized by 2DII**
Drake CL, Moran JE, Mason KM, Bowyer SM, Roth T, Tepley N, Barkley GL
- 242 A MEG study of the cerebral rhythm in patients with cognitive deterioration: a preliminary study**
Franciotti R, Iacono D, Della Penna S, Di Rollo A, Pizzella V, Torquati K, Romani GL, Onofri M
- 243 Cholinergic modulation of spontaneous MEG activity: implications for Alzheimer's disease**
Osipova D, Ahveninen J, Jääskeläinen IP, Huttunen J, Kaakkola S, Pekkonen E
- 244 Enhanced Preattentive Auditory Processing in Amyotrophic Lateral Sclerosis with a Bulbar Onset**
Pekkonen E, Laaksovirta H
- 245 Cholinergic System Modulates Preattentive Auditory Processing in Aging and in Alzheimer's Disease**
Pekkonen E, Osipova D, Jääskeläinen IP, Kaakkola S, Erkinjuntti T, Ahveninen J
- 246 Neurophysiological and metabolic evaluation of the organization of cerebral sensorimotor areas in stroke patients: an MEG/fMRI study**
Tecchio F, Del Gratta C, Zappasodi F, Vernieri F, Altamura C, Tibuzzi F, Pizzella V, Torquati K, Ferretti A, Tartaro A, Romani GL, Rossini PM
- 247 Hand cortical areas reorganization in a large group of stroke patients**
Tecchio F, Zappasodi F, Pizzella V, Pasqualetti P, Salustri C, Pascoli M, Vernieri F, Rossini PM
- 248 Movement related cortical magnetic fields in self induced wrist movement under a physiotherapeutic intervention**
Waldmann G, Woldag H, Knösche TR, Hummelsheim H
- 249 Automated analysis of MEG recordings for hemispheric dominance determinations in a clinical population: a comparison with the "standard" analysis procedure and with the Wada test.**
Castillo EM, Gamelin J, Zhang W, Simos PG, Papanicolaou AC
- 250 The propagation of spreading depression in rat cerebral cortex is inhomogeneous**
Eiselt M, Gießler F, Haueisen J, Zwiener U
- 251 Origin and spread of periinfarct depolarization in rats detected by ECoG and MEG**
Eiselt M, Ringer T, Röther J, Gießler F, Nowak H, Zwiener U
- 252 Effects of hydration and hyperventilation on the brain dynamics: A MEG study**
Müller V, Birbaumer N, Braun C, Lang F, Preißl H

- 253 Increased Somatosensory Neuromagnetic Fields Ipsilateral to Lesions in Neurosurgical Patients**
Roberts TPL, Tran Q, Ferrari P, Berger MS
- 254 A neural complexity measure applied to MEG data in Alzheimer's Disease**
van Cappellen van Walsum AM, Pijnenburg YAL, van Dijk BW, Berendse HW, Scheltens P, Stam CJ
- 255 Magnetoencephalographic recordings from tinnitus patients during masking procedures**
van Marle HJF, Kronberg E, Schulman JJ, Ribary U, Llinás R, Shulman A, Goldstein B

MEG: psychiatry

- 256 Mismatch responses in schizophrenia: a comparative fMRI and whole-head MEG study**
Mathiak K, Kircher TTJ, Rapp A, Grodd W, Hertrich I, Weiskopf N, Lutzenberger W, Ackermann H
- 257 Modulation of oscillatory MEG activity in 8 -13 Hz and 4 -7 Hz bands to visual spatial working memory task in OCD patients and healthy controls**
Ciesielski K, Ahlfors S, Hämäläinen MS, Lesnik P, Stephen J, Geller D, Stufflebeam S
- 258 Predicting EEG Responses Using MEG Sources in Superior Temporal Gyrus Reveals Source Anomaly in Patients with Schizophrenia**
Huang M, Edgar JC, Thoma R, Hanlon F, Moses S, Lee RR, Paulson K, Weisend M, Bustillos J, Adler L, Miller G, Canive C
- 259 Stimulus registration and response preparation in saccadic tasks - MEG evaluation of healthy subjects and schizophrenia patients**
Kissler JM, McDowell JE, Clementz BA
- 260 Long-term opiod abuse changes magnetic mismatch negativity (MMNm) in addicts**
Kivisaari R, Autti T, Jokela O, Puuskari V, Rapeli P, Ahveninen J, Kähkönen S
- 261 Impaired Left Hemisphere M50 Gating in Patients with Schizophrenia**
Moses SN, Thoma RJ, Hanlon FM, Edgar JC, Huang MX, Weisend MP, Paulson KM, Lee RR, Bustillo J, Adler LE, Miller GA, Canive JM
- 262 Meg Findings Of Altered Brain Laterality In Schizophrenia: A Critical Review**
Reite M, Teale P, Rojas DC, McCormick KH
- 263 Latency Dependence on Stimulus Attributes in Autistic Patients: Neuromagnetic Correlates of Sound Processing**
Roberts TPL, Gage N, Hayer C, Ferrari P, Callen M, Siegel B
- 264 Broader frequency tuning curves for the M100 in schizophrenia**
Rojas DC, Camou S, Teale PD, Reite ML
- 265 Schizophrenic Patients Demonstrate Reduced Laterality of the A/P Source Location for Generators of the Auditory Steady State Response**
Teale P, Reite M, Carlson J, Rojas D
- 266 Brain mapping of abnormal neuromagnetic slow wave activity in schizophrenic and depressive patients**
Wienbruch C, Elbert T, Rockstroh B

MEG: cortical oscillations

- 267 Spatial Filtering for Gamma Oscillation Detection and Analysis in Auditory Evoked Experiment**
Baryshnikov BV, Wakai RT, Van Veen BD
- 268 MEG power spectrum and age: Differences between adolescents and adults**
Fehr T, Bott C, Haeberle A, Rockstroh B
- 269 Evidence of somatosensory evoked 600 Hz activity in the rabbit's brain**
Flemming L, Eiselt M, Gießler F, Reichenbach JR, Haueisen J, Zwiener U
- 270 Spatio-temporal distribution in gamma oscillations related to somatosensory processing**
Ihara A, Hirata M, Yanagihara K, Ninomiya H, Imai H, Ishii R, Sakihara K, Izumi H, Imaoka H, Kato A, Yoshimine T, Yorifuji S
- 271 High frequency oscillation of somatosensory evoked field in patients with unilateral cerebellar lesion**
Keiko Y, Toshiyuki M, Katsumi I, Rie S, Kuriko S, Takeshi O, Kazuhiro S, Norio H, Toshiki Y, Keiichi O
- 272 Neuromagnetic Imaging of Changes in Sensorimotor Rhythms During Observation of Tactile Stimulation**
Cheyne D, Gaetz W, Ducorps A, Schwartz D, Varela F
- 273 Spatial Frequency and Pattern Analysis of Human EEG**
Ramon C, Freeman WJ, Holmes M
- 274 Spatiotemporal Mapping of Cortical Oscillations**
Witzel T, Stufflebeam SM, Lin FH, Hämäläinen MS, Halgren E, Dale AM

MEG: visual systems

- 275 Adaptation of MEG responses to visual motion onset: template matching analysis**
Amano K, Takeda T
- 276 Characteristics of signal transmission to bilateral MT+ areas on viewing a visual motion stimulus within one visual hemifield**
Bundo M, Nakamura A, Yamada T, Horibe K, Washimi Y, Kachi Y, Kawatsu S, Kato T, Ito K, Kaneoke Y, Kakigi R
- 277 Source localizations of visual evoked magnetic fields using the conventional dipole model and minimum current estimates**
Hatanaka K, Nakasato N, Kanno A, Ohtomo S, Yoshimoto T
- 278 Cerebellar processing in a mental rotation task**
Houck J, Pearson-Bish J, Martin T, Ilmoniemi RJ, Tesche CD
- 279 Neural networks involved in visual target detection processing assessed by MEG measurements**
Iwaki S, Kaetsu I, Tonoike M
- 280 Event-related changes of the spontaneous brain activity during the perception of the 3-D structure from motion assessed by MEG**
Iwaki S, Tonoike M
- 281 Interpretation of the multifocal VEF by m-sequence technique**
Kawai H, Owaki T, Takeda T

- 282 Magnetoencephalographic study of occipitotemporal activity elicited by viewing mouth opening movement**
Miki K, Watanabe S, Kakigi R, Puce A
- 283 Visual Event Related Magnetic Fields to Hand Postures**
Nakamura A, Maess B, Gunter TC, Knösche TR, Bach P, Kato T, Friederici AD
- 284 MEG Relating to Pupil Response**
Naruse Y, Takeda T, Haji T
- 285 Development of software for recording the whole-head multifocal VEF**
Owaki T, Takeda T
- 286 Neural activity associated with top-down attention during a spatial cueing task**
Ozaki T, Owaki T, Takeda T
- 287 Vestibular activation of the posterior insula investigated by MEG**
Pawlowski M, Huonker R, Haueisen J, Fitzek C, Witte OW, Hegemann S
- 288 Source localization of visual evoked responses**
Schellhorn K, Steudel T, Schlegelmilch F, Husar P, Henning G, Haueisen J
- 289 MEG Measurement of Higher Level Visual Responses Elicited by Binocular Rivalry Stimuli**
Shinozaki T, Takeda T
- 290 Activation of the occipital cortex related to visual search assessed by fMRI constraints multi-dipole analysis**
Hayakawa T, Fujimaki N, Kato M, Imaruoka T, Miyauchi S
- 291 Visual evoked magnetic fields in the detection of optic pathway misrouting in ocular albinism**
Lauronen L, Sankila EM, Salmi T, Huttunen J
- 292 The differences in the source localization estimated in EEG P300 and MEG P300m to visual stimuli**
Maeno T, Kamiya S, Sekino M, Iramina K, Ueno S
- 293 Spatiotemporal characteristics of human brain areas involved in processing of visual motion: a MEG study**
Morosan P, Niedeggen M, Hesselmann G, Boers F, Muren A, Dammers J, Zilles K, Tass PA
- 294 Spatial localisation sensitivity in reading: A comparison between MEG and fMRI**
Pammer K, Cornelissen P, Hansen P, Holliday I
- 295 Spherical ECD-modelling of MEG responses upon checkerboard and flash stimuli**
Reits D, Schellart NAM, Spekrijse H

MCG: clinical applications

- 296 Non Invasive localization of Ventricular Preexcitation: Role of Multichannel Magnetocardiography**
Brisinda D, Fenici R
- 297 Performance of a High-Tc dc-SQUID Single-channel MCG System**
Chen CH, Chen WC, Zhang LH, Feng J, Huang XG, Liu YP, Wang ZQ, Zhao SP, Wang HW, Ding HS, Yang QS
- 298 Parametric Analysis of MCG Wave Sets in Chinese**
Chen WC, Yang QS, Chen GH, Zhang LH, Feng J, Huang XG, Liu YP, Wang ZQ

- 299 **Bedsite Multichannel Magnetocardiography in Clinical Practice**
Fenici R, Brisinda, Nenonen J, Fenici P
- 300 **Magnetocardiogram classification for patients with long QT syndrome**
Kandori A, Shimizu W, Yokokawa M, Kamakura S, Maruo T, Nakatani S, Miyatake K, Murakami M, Miyashita T, Tsukada K
- 301 **Analysis of excitation conduction with WPW syndrome patients using a three dimensional Magnetocardiogram**
Kobayashi K, Uchikawa Y, Nakai K, Yoshizawa M
- 302 **Registration and processing of magnetocardiogram in patients with CAD**
Kozlovsky V, Budnyk M, Stadnyuk L, Dmytriyeva T, Rekovets O, Getman T, Voytovych I
- 303 **Studying of the MCG diagnostic criteria for the chronic CAD patients**
Kozlovsky V, Budnyk M, Stadnyuk L, Getman T, Dmytriyeva T, Rekovets O, Zakorchena N
- 304 **Multiple-Current-Vector Diagrams for Evaluating Inhomogeneity of Myocardial Activity - Applied to Ischemic Heart Disease and Cardiomyopathy -**
Miyashita T, Kandori A, Tsukada K, Yamada S, Shiono J, Horigome H, Terada Y, Yamaguchi I, Maruo K, Shimizu W, Miyatake K
- 305 **Newly Developed Synthetic Aperture Magnetometry on Magnetocardiography Can Visualize Three Dimensional Infarcted and Ischemic Myocardium by Current Density Map**
Nakai K, Yoshizawa M, Kobayashi K, Nakamura Y, Suwabe A, Kawazoe K, Uchikawa Y
- 306 **Tracking of excited wave fronts by spatial frequency decomposition of MCG**
Ono Y, Kasai N, Ishiyama A, Miyashita T, Tsukada K, Yamada S, Yamaguchi I
- 307 **QRS Microvariability Detected by Magnetocardiographic Heart Beat Recordings**
Schless BG, Müller HP, Pasquarelli A, Hombach V, Ern  SN
- 308 **Applicability of Magnetocardiography for Evaluation of PTCA Effectiveness**
Stadnyuk L, Budnyk M, Kozlovsky V, Chaikovsky I, Getman T, Stadnyuk O
- 309 **Magnetocardiographic and echocardiographic parameters after short induced paroxysm of atrial fibrillation**
Stadnyuk L, Kozlovsky V, Budnyk M, Sosnitsky V, Minov Y, Sutkovyy P, Stadnyuk O
- 310 **Magnetocardiograms Superimposed on Magnetic Resonance Images: Arrhythmias with or Without Anatomical Abnormalities**
Yamada S, Tsukada K, Miyashita T, Kanemoto M, Miyauchi T, Yamaguchi I
- 311 **Magnetocardiography before and after bone marrow transplantation in children**
Heyl J, Riede FT, Haeisen J, Zintl F
- 312 **Primary and Secondary ST-T Abnormalities Evaluated by Magnetocardiograms**
Kanemoto M, Yamada S, Tsukada K, Miyashita T, Kuga K, Watanabe S, Yamaguchi I
- 313 **The measurement of the MCGs under acupuncturing stimulation by using high Tc rf SQUID magnetometer**
Ma P, Xie FX, Yang T, Zhang SY, He DF, Liu LY, Nie RJ, Wang F, Wang SZ, Dai YD
- 314 **Dual Current-vector Diagrams For Quantitative Analysis Of Electrical Current Propagating In The Heart Using Dual Measurement Planes**
Tsukada K, Miyashita T, Kandori A, Suzuki D, Yokosawa K, Ogata K, Yamada S, Shiono J, Horigome H, Terada Y, Yamaguchi I

Modeling: inverse problem

- 315 Some Improvements on the Equivalent Current Dipole (ECD) Method**
An KO, Im CH, Jung HK, Lee YH, Kwon HC
- 316 A Technique to Estimate Number of Current Dipoles for MEG Source Localization**
An KO, Im CH, Jung HK, Lee YH, Kwon HC
- 317 MEG Localization Errors Associated with a Realistic Cortical Model**
Bolander H, Moran JE, Nagesh V, Mason KM, Bowyer SM, Barkley GL, Tepley N
- 318 Dense electrical map reconstruction from ECG/MCG measurements with known fiber structure and standard activation sequence**
Debreuve E, Gullberg GT
- 319 A comparison of finite elements and boundary elements applied for bidomain model based lead-field matrix computation**
Fischer G, Seger M, Modre R, Hanser F, Messnarz B, Tilg B
- 320 Frequency domain source and source coherence estimation**
Grasman RPPP, Huizenga HM, Waldorp LJ, Böcker KBE, Molenaar PCM
- 321 Identifying source location of beta band event-related synchronization (ERS) in single trial using minimum current estimation (MCE)**
Hsieh JC, Lee PL, Wu YT, Chen LF, Yeh TC
- 322 MEG Source Reconstruction Using Sensitivity Analysis**
Im CH, An KO, Jung HK, Lee YH, Kwon HC
- 323 Estimation of Optimal Analysis Domain for MEG Source Reconstruction Based on 3-D Function Approximation**
Im CH, An KO, Jung HK, Lee YH, Kwon HC
- 324 Fast Robust MEG Source Localization using MLPs**
Jun SC, Pearlmutter BA, Nolte G
- 325 Comparison of MCG and ECG dipole localisation in a phantom with a thin inhomogeneity layer**
Karvonen M, Lindholm M, Nenonen J, Liehr M, Schreiber J, Hauelsen J, Katila T
- 326 Reliability and concurrent validity of alternative source modeling methods: Comparison with invasive brain mapping techniques**
Molfese DL, Simos PG, Castillo EM, Papanicolaou AC
- 327 The Source Space of Electrocardiography and Magnetocardiography**
Nalbach M, Skipa O, Dössel O
- 328 Spatio-temporal multiple dipole localisation of activity along peripheral nerve**
Nordahn MA, Burghoff M
- 329 A fast method to set the initial source parameters**
Orzechowski M, Dunajski Z
- 330 Automated Detection of Dipole Clusters in Interictal MEG Data**
Ossadtchi A, Mosher JC, Baillet S, Lopez N, Sutherling WS, Leahy RM
- 331 MEG/EEG Forward and Inverse Modeling Using MRVIEW**
Ranken DM, Best ED, Stephen JM, Schmidt DM, George JS, Wood CC, Huang M
- 332 Variance Based MEG Source Localization and Detection via Dipole Fitting**
Rodríguez-Rivera A, Van Veen BD, Wakai RT

- 333 Reconstruction of the current flow patterns in a local area with conductivity anisotropy**
Sosnitsky V, Steinberg F, Sutkovyy P, Primin M, Nedayvoda I, Sutkova K
- 334 Source localization accuracy in MEG using the Galerkin method**
Tissari S, Rahola J, Nenonen J
- 335 Can a Spherical Model Substitute for a Realistic Head Model in Forward and Inverse MEG Simulations?**
van Uiter R, Johnson C
- 336 How does Synthetic Aperture Magnetometry (SAM) Respond to a Changing Composition of Sources within the Brain**
Vrba J, Robinson SE
- 337 Current Density Reconstructions And Deviation Scans Using Extended Sources**
Wagner M, Fuchs M, Kastner J
- 338 Model selection in electromagnetic source analysis**
Waldorp LJ, Huizenga HM, Grasman RPPP, Böcker KBE, de Munck JC, Molenaar PCM
- 339 Improvement of MEG's source localization by means of continuous head motion detection**
Dammers J, Boers F, Fieseler T, Muren A, Tass PA
- 340 Source localization accuracy in an animal model**
Flemming L, Gießler F, Hauelsen J, Reichenbach JR, Eiselt M
- 341 Confidence Intervals of Dipole Source Reconstruction Results**
Fuchs M, Wagner M, Kastner J
- 342 Spatio-temporal current source reconstruction by maximizing source independence**
Han J, Park KS
- 343 Minimum-support MEG imaging**
Portnaguine O, Nagarajan SS, Hwang D, Sekihara K
- 344 Computing the Statistical Significance of SAM Source Power**
Robinson SE, Vrba J
- 345 Spatial resolution, leakage, and signal-to-noise ratio in adaptive-beamformer source reconstruction techniques**
Sekihara K, Nagarajan SS, Robinson S, Vrba J
- 346 Multiple current source estimation using the renormalized orthogonal transformation**
Tachikawa A, Iramina K, Ueno S
- 347 Brain maps of focal slow wave activity**
Wienbruch C, Elbert T, Rockstroh B
- 348 Current density imaging of simulated MCG signal by Modified Synthetic Aperture Magnetometry**
Yoshizawa M, Nakai K, Nakamura Y, Kobayashi K, Uchikawa Y

Magnetic methods for understanding of oral drug delivery

- 349 Magnetic marker monitoring (MMM) allows to characterize effects of exogenous factors on esophageal transit of solid drug forms**
Osmanoglou E, Kosch O, Hartman V, Strenzke A, Trahms L, Weitschies W, Wiedenmann B, Mönnikes H
- 350 Magnetic relaxation measurements: A novel approach for in vivo diagnostics**
Romanus E, Hückel M, Groß C, Prass S, Weitschies W, Bräuer R, Weber P
- 351 Evaluation of the Magnetically Marked Tablets in the Human Stomach by AC Susceptometry**
Américo MF, Corá LA, Romeiro FG, Moraes R, Baffa O, Miranda JRA
- 352 Intragastric Distribution of Food Evaluated by Scintigraphy and AC Susceptometry**
Américo MF, Oliveira RB, Corá LA, Moraes ER, Miranda JRA, Baffa O
- 353 AC Susceptometry to Study the Human Intestinal Motility and the Colonic Response to Feeding**
Américo MF, Romeiro FG, Corá LA, Baffa O, Chubaci FANF, Miranda JRA
- 354 Magnetic Marker Monitoring of the In Vivo Dissolution Behavior of Extended Release Tablets**
Hartmann V, Kosch O, Trahms L, Mönnikes H, Osmanoglou E, Weitschies W

Other biomagnetic applications

- 355 Effects of acute exposure to magnetic field on electrical properties of frog sciatic nerve : biosuperconductivity**
Abdelmelek H, Amara S, M'Chirgui A, Salem MB, Sakly M
- 356 SQUID biomagnetometry of the uterine arteries in normal and pre-eclamptic pregnancies**
Kotini A, Anninos P, Koutlaki N, Avgidou K, Adamopoulos A, Anastasiadis P
- 357 Continuous Measurement of the Energy Responsible for Rotational Random Movements of Phagosomes by Cytomagnetometry**
Nemoto I, Kawamura K, Takahashi T
- 358 Cytotoxic Evaluation of Mixed Solution of Gallium Trichloride and Arsenic Trichloride to Alveolar Macrophages of Hamsters**
Okada M, Lyons YI, Watanabe M, Kudo Y, Shinji H, Aizawa Y, Kotani M
- 359 Biological effects of magnetic field on permeability of light in the body tissue during choking**
Okai O, Watada M
- 360 Localization test for normalized coordinate system**
Zimmermann R, Igelmann H, Kopp S, Bromm B
- 361 Localization of Curved Steel Needles In Humans Using a SQUID Magnetometer**
Hall Barbosa C, Costa Monteiro E, Cavalcanti FM
- 362 Magneto-oculogram from magnetic cosmetics**
Lopez N, Akhtari M, Mamelak A, Merrifield W, Sutherland WS

- 363 Measurements of magnetic field distribution associated with end plate potentials induced from neuromuscular junctions**
Tachikawa A, Iramina K, Ueno S
- 364 Establishment of the Accurate Measurements of the Magnetic Field Produced by Accumulated Particles in the Lungs**
Zheng Y, Guiyao C, Kotani M, Uchikawa Y, Nakadate T, Yagami T

Registration

Conference registration fee:

Participant	EUR 450
Student*	EUR 325
Accompanying person	EUR 100

* The student has to have a proof from his university or supervisor to qualify for the lower fee.

The registration fee includes admission to all scientific sessions, conference materials, refreshments during the breaks, proceedings book, Welcome reception and Conference banquet party as well as the satellite symposium in Leipzig and laboratory tour in Berlin.

The accompanying persons fee includes the admission to the commercial exhibition, the Welcome reception and the Conference banquet party.

Payment:

On-site payments should be made cash in Euro at the conference desk.

Conference desk:

The conference office registration desk is open at the lecture hall building (Carl-Zeiss-Straße 3) as follows:

Friday	August 9	12.00 - 19.30
Saturday	August 10	8.00 - 19.30
Sunday	August 11	7.30 - 19.30
Monday	August 12	7.30 - 19.30
Tuesday	August 13	7.30 - 19.30
Wednesday	August 14	8.30 - 15.00

Phone-numbers of the conference office are: 941870, 941871 (Fax: 941872).

Before and after the conference +49-3641-935353 and +49-3641-935355.

Badge

Please note, that your name badge given upon registration is your proof of entitlement to participate in the sessions. You are kindly requested to wear your badge all the times during the conference. It entitles you to use the lower Taxi rates between the Conference venue and the Maxx-Hotel and between the Maxx-Hotel and the City railway stations (refer to the public transportation service chapter).

The color of the badge indicates the following groups:

Yellow = Organizer, Amber = Technical support, White = Participant, Green = Accompanying person, Blue = Exhibitor



Poster and Slides

For information about poster and slides please refer to “Poster sessions” and “Oral sessions” in the Scientific program section (pages 28 and 9).

Climate and Geographic conditions

Jena is situated in the middle of the Saale valley in east Thuringia, 150 m above sea level. Limestone rocks surround the city. Extensive forest areas and steep slopes of the limestone hills invite for hiking and other recreational activities. Many botanical and geological features, including 40 species of orchids, attract those which are interested in natural history. In August the mean day temperature ranges between 20 – 28 °C (68 - 80 °F). Evening temperatures are lower. Climate conditions are variable but on average dry with occasional rain and thunderstorms.

Conference venue

The congress will take place in the lecture hall building at Friedrich-Schiller University in Jena, which is located in the city center (Carl-Zeiss-Straße 3). It is easily accessible by the local tram system (lines 2,5, and 35, Stop "Ernst-Abbe-Platz"). The conference hotel (Steigenberger Esplanade) is about 150 m away.

The conference venue is located in a pedestrian zone in the center of the city. A large number of restaurants, take-away food services, a student cafeteria, and a student dining hall are within two minutes walking distance.

Currency

The currency of Germany is Euro (EUR) which divides into 100 Eurocent. One Euro is approximately 0.98 USD, 0.64 GBP or 117 JPY, respectively.

Shopping

The shopping mall “Goethe Gallerie” is close to the conference venue (ca. 100 m). There are shops and restaurants. The shops are open from 9:30 am to 8:00 pm on weekdays and from 9:30 am to 2:00 pm on Saturday. Many other shops are located in the city in a 5 minutes walking distance.



Medical care

In case of a medical disease or injury please contact the conference desk. The phone number of the Emergency Medical Services and Fire Dept. is **112**.

Pharmacy

A pharmacy close to the conference venue is located in the shopping mall.

Bank

There are several bank offices in the city around the conference venue. Mostly they operate from 9 am to 4 pm on weekdays.

Cash dispensers

There are several cash machines (EC - EuroCheque) in the shopping mall and the city as well as in all major bank offices. The machines accept EuroCheque-cards as well as major credit cards (Visa, EuroCard, MasterCard, American Express).

Public transportation service

There is a tram line from the City center to the Maxx-Hotel (Line 4 during day time, transfer time approx. 12 minutes; Line 31 evening, during the night and Sunday morning, transfer time approx. 21 minutes). The transfer fee is included in the hotel room charge (Maxx-Hotel only). You need the original hotel pass (neither a room key nor a copy will be accepted).

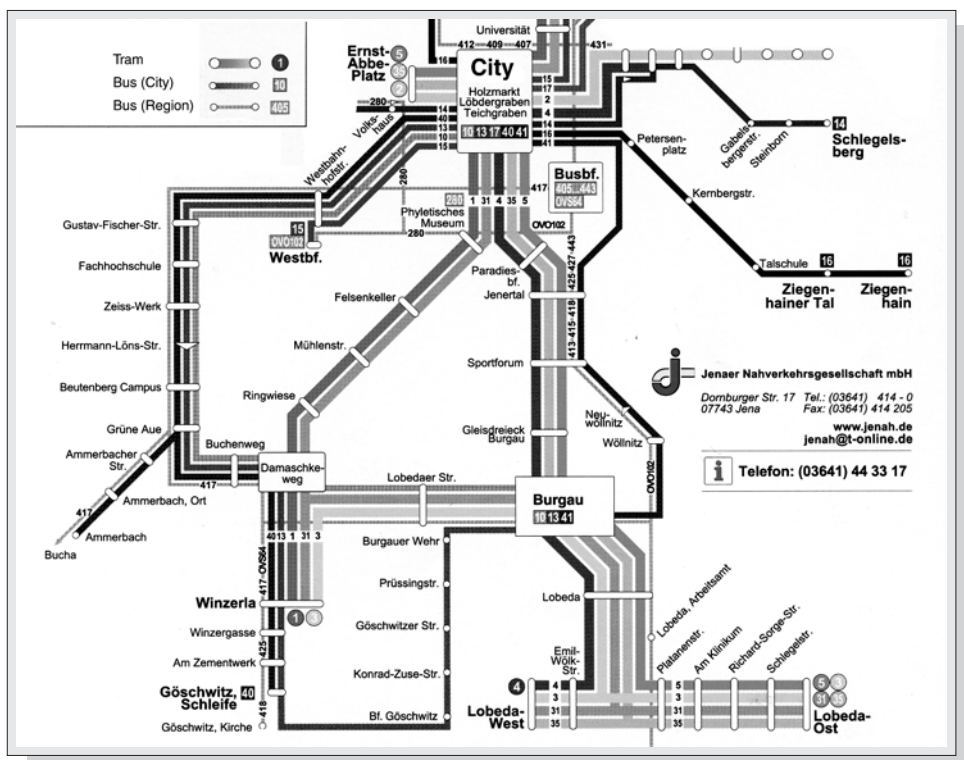
To go from the City center to the Maxx-Hotel use the city station "Löbdergraben" and go by tram to the Station "Lobeda-West" close to the hotel.

Do NOT use the tram (Line 5) going from the conference venue "Ernst-Abbe-Platz". (If you use it, you must change to Line 4 between the stations "Paradiesbahnhof" and "Burgau").

There is a special Taxi offer from the Maxx-Hotel to the conference venue and the city railway stations ("Jena-Paradies" and "Jena-West") during the conference. The fix transfer fee is EUR 11,-. To obtain that special fee, please call the Taxi at **458888** and use your name badge to identify you in the Taxi as participant of the conference. (Other Taxi-companies do not offer the lower fee.)



Public transportation service



Tram City to Maxx-Hotel (Station: Stadtzentrum/Löbdergraben)

(Line 4: ride time: ca. 12 min;
* Line 31: ride time: ca. 21 min;)

Saturday

hour	min
08 - 19	19 39 59
20	19 39 50*
21 - 03	like Monday to Wednesday

Sunday

05 - 11	20* 50*
12 - 19	19 39 59
20	19 39 50*
21 - 03	like Monday to Wednesday

Monday - Wednesday

07	05 13 20 28 35 43 50 58
08	05 13 20 28 35 43 50 59
09 - 14	09 19 29 39 49 59
15	09 19 28 35 43 50 58
16	05 13 20 28 35 43 50 58
17	05 13 20 29 39 49 59
18	09 19 29 39 49 59
19	09 19 31 46
20	01 16 31 50*
21 - 23	20* 50*
00	30*
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02	30*
03	00*

Tram Maxx-Hotel to City (Station: Lobada-West)

(Line 4: ride time: ca. 12 min;
* Line 31: ride time: ca. 21 min;)

Saturday

hour	min
08 - 19	19 39 59
20	19 29* 59*
21 - 03	like Monday to Wednesday

Sunday

05 - 10	29* 59*
11	29* 59
12 - 19	19 39 59
20	19 29* 59*
21 - 03	like Monday to Wednesday

Monday - Wednesday

07	03 10 18 25 33 40 48 55
08	03 10 18 25 34 44 54
09 - 14	04 14 24 34 44 54
15	03 10 18 25 33 40 48 55
16	03 10 18 25 33 40 48 55
17	04 14 24 34 44 54
18	04 14 24 34 44 54
19	06 21 28 36 51
20	06 29* 59*
21 - 22	29* 59*
23	29*
00	09* 49*
01	29* 59*
02	39*



Laboratory tour to Berlin

On Wednesday, August 14, just after the Biomag 2002 there exists the possibility to visit the biomagnetic laboratory at Physikalisch-Technische Bundesanstalt in Berlin. There will be a bus transfer from Jena to Berlin. At PTB you can visit the new Hermann-von-Helmholtz-Building of the PTB with two new biomagnetic recording places. One magnetically and acoustically shielded room is specially designed for MEG research. This room is equipped with a helmet 93 channel SQUID system from Eagle Technology (Japan). The second place is the 8 layer magnetically shielded room with additional active shielding. This room has an excellent shielding from DC to higher frequencies, lowest magnetic noise and lowest residual magnetic fields inside. It is designed for biomagnetic reference measurements. Both magnetically shielded rooms are designed and manufactured by Siemens and Vacuumschmelze.

Please notice that we will not provide back transfer to Jena.

Organizers: Martin Burghoff, Lutz Trahms, Hans Koch

Time Table:

14.08.2002	14.15	Bus departure to Berlin from the main entrance of the Esplanade Hotel.
14.08.2002	17.30 - 21.00	Laboratory tour at PTB Berlin

For late registration (may not be possible) please contact the registration desk.

Satellite symposium Leipzig

MEG – a Tool for Research on Language and Music Perception

On Thursday, August 15, this workshop on the application of MEG to specific fields of neuroscience will be held at the Max-Planck-Institute of Cognitive Neuroscience in Leipzig.

Venue: MPI Leipzig, Stefanstraße 1a, Tel: 0341-9940107

Organizers: Burkhard Maess, Thomas R. Knösche

For the program refer to the Program Part of this booklet.

Some trains:

Aug. 14	Berlin Ostbahnhof - Leipzig:	20.27 (arrival: 22.01)	ICE
Aug. 14	Berlin Zoolog. Garten - Leipzig:	21.55 (arrival: 0.32)	IR (last)
Aug. 14	Jena Paradies - Leipzig	14.47 (arrival: 15.45)	ICE
Aug. 14	Jena Paradies - Leipzig	16.47 (arrival: 17.45)	ICE
Aug. 15	Jena Paradies - Leipzig	05.04 (arrival: 06.04)	EuroNight
Aug. 15	Jena Paradies - Leipzig	08.47 (arrival: 09.45)	ICE



Laboratory tours

The Institute for Physical High Technology Jena (Institut für Physikalische Hochtechnologie, IPHT), Department of Cryoelectronics offers a tour which will focus on SQUID fabrication and applications. The tour starts on Saturday morning at 9.00 in front of the Hotel Esplanade (Bus departure) and ends at 11.00 (return to Hotel Esplanade).

Unfortunately, there will be no official tour to the Biomagnetic Center Jena, since we are in the process of moving the laboratories (including MSRs and Biomagnetometers) to a new location within Jena. For those who would like to see the construction site we will provide individual tours after the conference on Wednesday afternoon. Please contact the registration desk if you wish to visit the construction site.

Travel agency

Our official travel agency is JenaTours AG. Please contact Walter A. Eckert, JENATOURS AG, Teichgraben 5, 07743 Jena, Tel: +49-3641-590624 Fax: +49-3641-590626. An office desk with possibilities to arrange tours or flights will be located in the conference office. (Open: Aug. 10: 11.00-15.00 and Aug. 11 to Aug.13: 10.00-15.00)

Accompanying persons program

Saturday, August 10, 2002, 19.00 - 21.00

Welcome reception

Sunday, August 11, 2002, 10.00

Guided city tour

Tuesday, August 13, 2002, 20.00 - 1.00

Conference Banquet Party at the Mensa

Coffee and Lunch

Coffee is served in the main hall in front of lecture halls HS 1 and HS 2 during the coffee breaks. During other times coffee and snacks can be purchased at the cafeteria between lecture halls HS 2 and HS 3 or outside the lecture hall building.

Lunch is not provided by the conference. In the close surroundings of the lecture hall a large variety of restaurants of all categories is available.



Social events

Saturday, August 10, 2002, 19.00 - 21.00, main hall in front of the lecture halls

Welcome reception

Informal event with world music by "Fork & Fiddle", snacks, and drinks.

Monday, August 12, 2002, 19.30, "Collegienhof"

Baroque Concert

"Mitteldeutsche Barockcompagney" plays on baroque instruments. Refreshments are offered.

Tickets (12,- EUR) can be purchased at the conference desk.

Tuesday, August 13, 2002, 20.00 - 1.00, Mensa, Ernst-Abbe-Platz

Conference Banquet Party at the Mensa

After the official speeches of the Conference Chairman, the Chairman of the International Advisory Board, and the Chairman of the 14th International Conference on Biomagnetism, a typical local Thuringian buffet, local beers, and wines will provide the beginning of an informal evening with music from the "Dixielanders".

E-mail and Internet

Sun Microsystems provides 10 computers for Internet access. These computers are located in lecture hall HS 5 (also slide preview room).

Message board

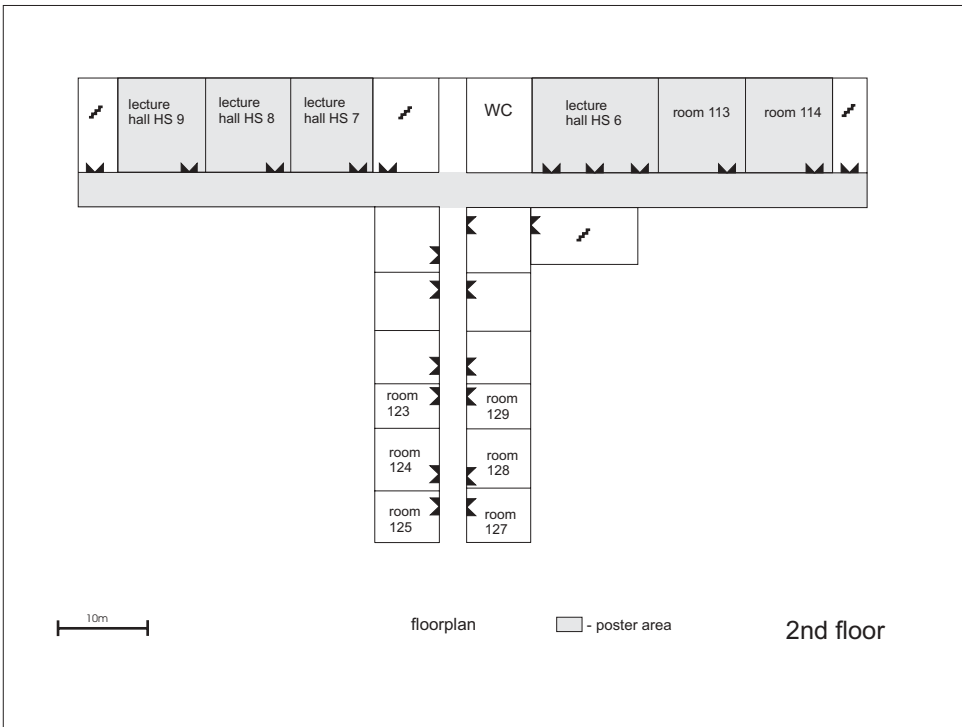
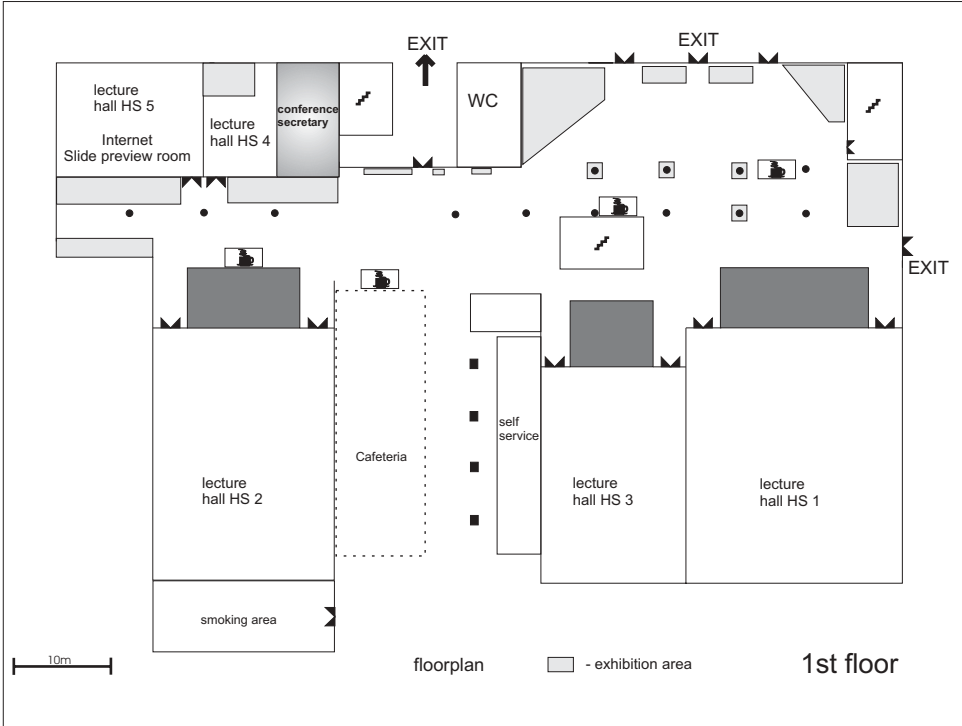
A message board is located in the main hall in front of lecture hall HS 1.

Commercial exhibition

An exhibition area will be provided in front of the main lecture halls.



Floor plan



Main Collaborators



Sponsors

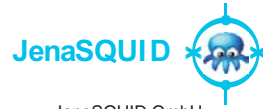




Institut für Physikalische Hoch-
technologie e.V.
www.cryo-jena.de



JANSSEN-CILAG GmbH
www.janssen-cilag.de



JenaSQUID GmbH
www.jenasquid.de



Thüringer Besucherservice
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www.thueringer-besucher-service.de



Deutsche Lufthansa AG
www.lufthansa.de



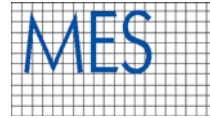
Magnicon GbR
www.magnicon.com



Max-Planck-Institute
of Cognitive Neuroscience
www.cns.mpg.de



MEGIS Software GmbH
www.megis.de



MES Medizinelektronik GmbH
www.mesmed.de



Neuroscan Deutschland
www.neuroscan.com



Nexstim



Novartis
www.novartis.com



Pfizer GmbH
www.pfizer.de

**Radiologische
Gemeinschaftspraxis
Klinner / Granzow
Jena**



Schering Deutschland GmbH
www.schering.de



Serono Pharma GmbH
www.serono.com



Steigenberger Hotels
www.jena.steigenberger.com



Sun Microsystems GmbH
www.sun.com



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www.supracon.com



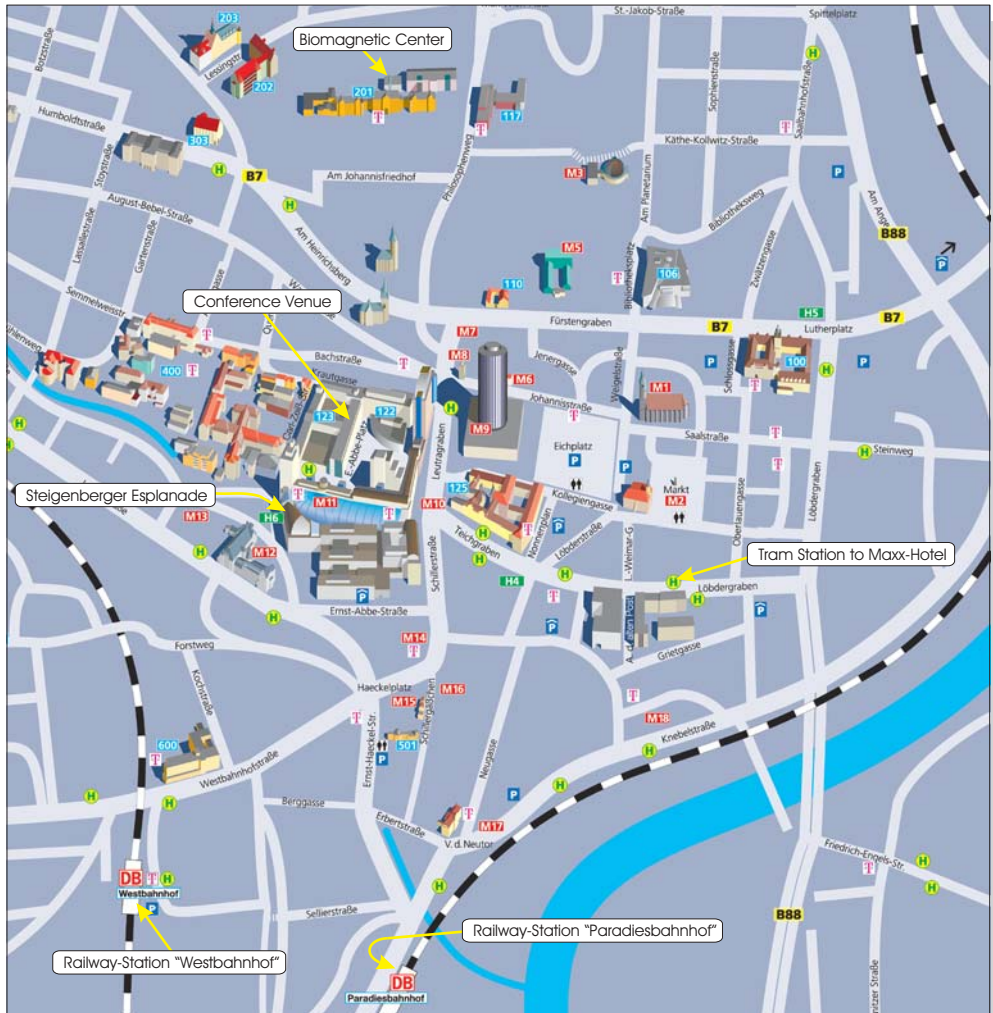
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www.tristantech.com



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www.vacuumschmelze.com



City Map of Jena



Sights

- M1 City Church
- M2 Market place with Town hall
- M3 Planetarium
- M5 Botanical garden
- M6 Taverne "Zur Rosen"
- M7 Tower of the old City wall "Pulverturm"
- M8 Tower of the old City wall "Johannestor"
- M9 "Intershop"-Tower with luxury restaurant "Scala" on the top
- M10 Tower of the old City wall "Anatomieturm"
- M11 Shopping Mall "Goethe Galerie"
- M12 Cultural center "Volkshaus"
- M13 Optical Museum
- M14 Main Post Office
- M15 Garden house of Friedrich Schiller
- M16 Theater building and "Kulturarena"
- M17 "Phyletic Museum"
- M18 Central Bus Station

University Buildings

- 100 University Main Building
- 106 Academic library of Thuringia
- 110 Goethe Museum
- 117 Student's dining hall "Mensa" Philosophenweg
- 122 Mensa & Cafeteria "Ernst-Abbe-Platz"
- 123 Lecture hall building "Carl-Zeiss-Straße"
- 125 Med.-Theoret. Inst. with the "Collegienhof"
- 201 Univ. Hospital, Dept. for Neurology
- 202 Univ. Hospital, Dept. for Otolaryngologie
- 203 Univ. Hospital, Dept. for Urology
- 303 Lecture hall "Döbereiner"
- 400 University Hospital
- 501 Observatory
- 600 Univ. Hospital, Paediatric Clinic

Hotels

- H5 Hotel "Schwarzer Bär"
- H6 Conference Hotel "Steigenberger Esplanade"

